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DREAM—and believe in your own power to make the dream come true.

HOPE—and be bold to make the things you hope for come to you.

LOOK UP, for midst the clouds and stars is inspiration found;

BUT, to attain your aspirations, keep firm foothold on the ground.

G. H. C.

The American Journal of
CLINICAL MEDICINE
Dependable Therapeutic Fact for Daily Use

Vol. 29, No. 5 May, 1922

The Doctor and the Law

IN an address delivered at the annual meeting of the North Dakota State Medical Association, at Fargo (*Jour.-Lancet*, Nov. 1, 1921), Mr. Matt W. Murphy, of the Fargo Bar, summarizes the legal duty of the physician or surgeon as being, to exercise reasonable care in the treatment of their patients. The legal duty of the patient is, Mr. Murphy declares, to cooperate with the doctor, faithfully following his prescriptions and directions.

These rules of law are simple and capable of common understanding and, yet, medical men are frequently involved in malpractice suits. For this, Mr. Murphy cites a number of causes.

First, the patient is often ignorant of his true condition and expects results which are impossible from any operation or treatment.

Secondly, he often consults different doctors or fails to follow the directions or prescriptions of any medical adviser; and

Thirdly, he harkens to family advice, and, if his injury results from an accident, he is frequently the certain prey of ambulance-chasers and unscrupulous lawyers. These matters arise as an incident of human nature, and the doctor can not prevent them, but he is the preventable cause of many malpractice suits where he fails to cooperate with his brother doctor or gives aid and comfort to the grievances of another doctor's patients.

This attitude of physicians one to the other is an important factor in malpractice suits and it is largely due to the fact that, usually, some physician or surgeon can be found who is willing to criticize adversely the methods of a colleague, that so many malpractice suits come to trial.

As Mr. Murphy points out, "a lawyer who undertakes the prosecution of a malpractice suit against a doctor seeks at the very beginning the support of other doctors, knowing that without such support his cause is lost. If he can secure the help of a doctor in the same community, he rubs his hands with glee. If he fails there, he appeals to other doctors in the nearest medical centers or imports a specialist from afar. Without medical testimony, the plaintiff in a malpractice suit is like a fish out of water."

He continues: "Without any desire to censure your profession, it is my sincere belief that this deplorable condition is due in considerable degree to the encouragement given such litigants by the medical profession."

Mr. Murphy expresses some very pithy and excellent ideas regarding the duties of a doc-

tor under such circumstances. The latter may be induced to express an opinion of a hypothetical case without knowledge that it is the subject of possible litigation; but, sooner or later, he learns the truth. If he has this knowledge in the beginning, that is to say, if his opinion is requested not in court but, say, in his office, and if he knows that a case is to come to trial, the doctor should refuse to give an opinion unless he has taken a careful written statement from the patient of the history of the case *and* unless he has before him a written statement from the other doctor as to his side of the case. Mr. Murphy reasons justly that, in such circumstances, the doctor who is asked to give an opinion acts in a judicial capacity and it is most unjust for him to render judgment unless he has heard both sides of the case.

The idea is this. The doctor may give his opinion regarding a hypothetical case submitted to him by a lawyer. Then, if he is subpenaed and the same hypothetical question is put to him, the testimony given previously and which will have informed him of the merits of the case on both sides may induce him to alter his opinion and to change his answer to the hypothetical question. An opinion based upon only one side of the case may cause the witness to be discredited, embarrassed and condemned. If, however, the doctor has taken the precaution of obtaining a written statement from each party in the beginning, his first opinion necessarily will conform to his testimony on the stand. Indeed, it may save him from being called upon to testify at all.

If he has given an opinion without knowledge that the case is to go to the court, he should, upon being so advised, immediately request from the doctor a statement of the case, and if this changes his original views, he should at once notify the patient or the lawyer of that fact and the reason for it. Thus fortified, the doctor need have no fear of subpena-servers

Such a procedure manifestly is dictated by a spirit of fairness, and Mr. Murphy's appeal to adhere to such a rule of action is exceedingly well taken.

As a matter of fact, Mr. Murphy counsels both doctors and patients strongly to avoid law suits. He advises us to "tell the patient that, to seek the redress of grievances by going to law, is like a sheep running for shelter to a bramble bush; tell the doctor, that to seek vindication at law is no easy journey, for nothing is certain at law but the expense; and say to both of them that to go to the law is for two persons to kindle fire at their own cost, to warm others and singe themselves to cinders; and because they can not agree as to what is truth and equity, they will both agree to unplume themselves that others may be decorated with their feathers.

"The plaintiff and defendant in a lawsuit are like two men ducking their heads in a bucket and daring each other to remain longest under water."

If a malpractice suit is called for trial, the doctor should consult with the other doctors who are known or believed to be called on the case, informing each of all known facts and agreeing, if possible, upon the medical principles involved and the proper practice. In any case, "charity is an attribute of greatness" "No one knows the intimate facts and circumstances which prompted the defendant doctor to adopt the practice which is now publicly condemned, and bear in mind that this public condemnation not only reaches the doctor and his reputation, but likewise reaches you and the reputation of every member of your noble profession."

"Give him the benefit of the doubt when you can do so; make it plain that your testimony is based upon typical cases and that many circumstances known only to the attending physician may have altered the situation and justified his course."

The neglect of this precaution, namely, to insist that an opinion expressed is based upon typical cases, may lead unknowingly to injury done to brother physicians. There are always, or at least frequently, circumstances in individual cases that lift them from the class of typical ones and that had guided the attending physician in his actions. Testimony based on typical cases alone is then certain to work unjustly and is extremely likely to injure not only one individual physician but the medical profession at large.

There is other good advice contained in Mr. Murphy's address that may well be heeded. We have limited ourselves to the basic ideas and agree with him that, the less physicians have to do with law courts, the better they are off.

A mother has, perhaps, the hardest earthly lot; and yet no mother worthy of the name ever gave herself thoroughly for her child who did not feel that, after all, she reaped what she had sown.—Henry Ward Beecher.

MOTHERS' DAY

Among the various days in the year that are devoted to definite memorials or celebrations, Mothers' Day has come to be observed with

general acclaim and pleasure. As we have pointed out on several occasions, the resolution designating the second Sunday in May of each year as Mothers' Day was passed by the Senate and House of Representatives of the United States of America in Congress assembled and was approved on May 8, 1914.

On that day, we pay tribute to the mothers generally, and to our mothers specifically, mainly by gifts of flowers and by wearing flowers in their honor. Those whose mothers still are among the living wear pink carnations; those whose mothers have passed on wear white carnations.

The Editors of CLINICAL MEDICINE wish to remind their colleagues of Mothers' Day, which, this year, will be celebrated on May 14. Do not let us forget; and let us remind the youngsters to make their mothers happy by observance of the day devoted to them especially.

Mother, when your children are irritable, do not make them more so by scolding and fault-finding, but correct their irritability by good nature and mirthfulness. Irritability comes from errors in food, bad air, too little sleep, a necessity for change of scene and surroundings; from confinement in close rooms, and lack of sunshine.—Herbert Spencer.

COLLECTING PHYSICIANS' FEES

The R. and C. Medical Pocket Quarterly (Dec. 1921) outlines a plan that has, it says, helped doctors to collect thirty-six million dollars in back fees. It refers to the fact that five million wage earners approximately are now said to be out of work. Thousands of these wage earners owe their physicians money for services faithfully rendered in moments of stress, to them personally and to members of the household. Most of them are honest and anxious to discharge themselves of their obligations to their physicians. However, circumstances put this out of their power.

The Pocket Quarterly refers to the fact that, on accounts receivable, any reputable business man, temporarily strapped for ready money, can go to his bank and borrow from thirty to fifty percent of the amount due on showing that the money is coming to him. The question is, whether a physician can do likewise. The editor of *The Pocket Quarterly* was informed by the representative of one of the largest banks in the United States that they will loan to a physician money, on his accounts receivable, on the same basis that they make loans to their customers on such accounts to meet current obligations.

Of course, the outstanding accounts would have to be good; that is to say, the debtors would have to be responsible and known to discharge their debts.

By way of offering a concrete suggestion, the editor refers to an institution known as the Morris Plan which has branch establishments in 104 cities of the United States and is backed by business men of national reputation. Its object is, to help worthy men over the humps of economic depression by loaning them money on their moral security, O. K.'d by two reputable persons who know them.

In the seven years that this institution has been operating, it has loaned to borrowers $245,000,000. Of this immense sum, the officers of the Morris Plan informed the editor of the magazine quoted, recently, that the association's records show that approximately $36,750,000 was loaned to borrowers for the specific purpose of paying doctors' bills.

In the years between 1915 and 1918, the association, through a single office, the one in New York City, made 63,000 individual loans, 7,000 of which, according to statements filed with the association by the borrowers, were to pay doctors' accounts past due.

The doctor's patient applying for money for this purpose is not required to deposit or pledge any collateral as security for the loan. He must simply show he is of good moral character, industrious and capable of earning a living, and have two persons of good repute vouch for this fact by countersigning his application. The patient stipulates to return the money in small convenient weekly payments of a few dollars.

"Thus, the doctor, instead of being stalled for protracted periods, is able to secure payment of his bills promptly. Being able to get his money promptly, he eliminates the necessity of writing his patients dunning letters and the risk of irritating his patients and alienating them away to another practitioner—all the poetic harmonies are preserved and the goose of peace hangs high."

Among the 25,000 loans of the Morris Plan Association, made to physicians' patients for the payment of medical fee, several thousand have been for the purpose of paying for surgical operations needed.

Without the Morris Plan loan, the patient, being without the cash to pay for such operations, ordinarily has no recourse but go to the Free Ward of a hospital and have the operation performed as a charity patient—which to many smarts, it lowers their self-respect, jars their pride.

The Morris Plan of loaning money to the patients of physicians thus solves the doctor's problem of getting money in two ways—money

to pay past-due medical bills and money to pay for vital and essential operations.

The Morris Plan not only loans money to the patients of doctors, but it has loaned hundreds of thousands of dollars to doctors themselves, when pinched for cash to pay off mortgages on their homes, to tide them over periods of depression while establishing themselves in new sections and to finance the installation and purchase of new expensive professional equipment, etc.

So, here, concludes the *Quarterly*, is etched a description of a method and a plan, whereby the doctor, handicapped by the inability of his patient to pay, may help them to do so. Most folks want to pay their doctor bills if they can. But, they do not know how or where to get the money. Send them to the Morris Plan office nearest their home. There are 104 Morris Plan offices in the U. S. If they are clean and decent folks they will get the money they need. And you will get yours.

To all of which, we say Amen.

I never got over my surprise at the surly moral manners, the lack of humbleness, and the colossal personal vanity that are the bedrock of people's incapacity to take criticism well. There is no greater test of size than this; but, judged by this test, most of us are dwarfs.—Margot Asquith.

LEGISLATIVE ODDITIES

The R. and C. Medical Pocket Quarterly for December, 1921, contains a few paragraphs scattered through that issue that, taken altogether, afford a picture of a peculiarity, seemingly, of the legislative mind that would be amusing if it did not lead to such serious consequences. For instance:

"While legislatures persist in their refusal to give health authorities in their state the right to enforce compulsory vaccination, smallpox continues to spread, needlessly causing the loss of many useful lives and millions of dollars in potential value to the state. If physicians neglected the interests of their patients as grossly as some legislators neglect the health of their constituents, we would all be in jail. . . .

"Unable to qualify for a state license because of deficient educational training, a Chiropractor in a Middle Western state attacks the Medical Practice Act of the state under which he is debarred from practicing, and succeeds in having the act declared unconstitutional on the ground that it discriminates against him. When the ex-shoemaker, ex-stevedore and ex-masseur, who affect the art of chiropractics, essay to heal the sick, mend the broken and soothe the distressed, the importance of educational matriculation is unimportant, anyhow. But, note how they fight for their rights, while we supinely sit tight and take the blows dealt us with scarce a whimper. Just a difference in types—what a pity! . . .

"The city of a Central West state which, according to a recent report, spends more money on the care of its cemeteries than it spends for the protection of the health of its citizens who live, is like some patients we know who make a fuss over paying a $50 medical fee for useful service rendered and cheerfully pay $200 for a shroud when some one in their family dies. . . .

"Three weeks ago, President Harding approved the amendment to the Volstead Act, making it illegal for a physician to prescribe beer in the treatment of a patient to whom its use might, in the judgment of the physician, be helpful. . . .

"The fact that the bill prohibits a physician from prescribing beer, is of itself of little significance. The medical profession holds no brief for beer and makes no special pleading for it. The great danger we recognize in legislation of this kind is, the precedent it establishes."

We realize fully that our law-makers can not possibly be fully familiar with and expertly cognizant of the inherent meaning and the principal consequences of a particular bill that is introduced. To that end, they are obliged to seek information from those whose business it is to know the particulars concerning each subject upon which a bill has been introduced. They may find it necessary to consult civil engineers, or architects, or lawyers, in order to post themselves with regard to a certain proposed measure. Likewise, they should consult with physicians of acknowledged and recognized standing when it comes to matters affecting not only the question of public health but also the practice of medicine. It is a serious thing for law-makers to interfere in the details of the practice of medicine, to direct or restrict the remedies that may be prescribed. Referring to the last quotation, we have no desire whatever to object to the specific ruling that physicians are prohibited from prescribing beer. The point is that physicians should not be prohibited from prescribing any substance whatever that they believe to be to the advantage for their patients, under certain definite conditions. While we personally would never dream of prescribing beer, or whisky, or brandy, for that matter (the latter, except under extremely rare circumstances), we can not but point out, as *The R. and C. Medical Pocket Quarterly* does, that this amendment to the Volstead Act is not at all in accordance with either the original Volstead Act or with the Eighteenth Amendment to the Constitution.

Some of the other paragraphs quoted provide food for thought. It seems to be a favorite occupation to make physicians as a

class the goat. We wonder whether the Solons (whether in the state capitols or in Washington) are so utterly naive as to simply take the say-so of lobbyists with regard to certain bills that are introduced and that enable these lobbyists to grind their own axes, or whether the Solons aforementioned "have it in for" physicians to the extent that they seem to.

It might be well for all of us to direct an occasional letter, both to our state representatives and senators and to the representatives and senators from our states in Washington. These gentlemen should understand that physicians, however long-suffering they are and however exclusively they may be occupied with their own work, will stand badgering only to a certain degree and that the line of what is permissible has in reality been transgressed. A few thousand letters written, courteously, to be sure, but none the less forcibly, may give our representatives something to think about—while a few dozen will have no influence whatever. Let's go!

The friendships of youth are the assets of age.—V. E. Lawrence.

HOW DEAD IS JOHN BARLEYCORN?

Current Opinion (April) believes that now, two years since the funeral service (in the form of the Eighteenth Amendment) was read over the grave of John Barleycorn, one may justly inquire into the completeness of John's demise. The editorial referred to points out that no death of a public institution was ever decided upon with greater unanimity. The legislatures of forty-five out of forty-eight states, with a population of more than one hundred million, decreed his death by thumping majorities. In the upper houses, eighty-six percent voted for ratification; in the lower houses, eighty percent. The Volstead Act was passed over President Wilson's veto by a vote of 176 to 55 in the House and of 65 to 20 in the Senate.

The 69 million gallons of liquor held in the bonded warehouses on January 1, 1920, had diminished, by July 1, 1921, to 42½ million gallons. At this rate, the entire amount will disappear about July, 1923, and drinkers will have to depend thereafter upon home-made liquor and that smuggled in from other countries.

Opinions expressed as to the actual working of the Eighteenth Amendment vary widely, the editorial says. Casual visitors, such as Lord Northcliffe and Margot Asquith, see little evidence of reduced drinking. In New York City, there is better testimony to the same effect. Bird S. Coler, Commissioner of Public Welfare, who hailed the advent of the law with loud acclaim, now says that, while the alcoholic wards in the city hospitals were practically abandoned in the early part of 1919, their activity now is "greater than it was before the Eighteenth Amendment was passed." He attributes this in large part to the semi-protection by the federal government, declaring that "at no time has the Government been sincere in regard to the enforcement of the law and in treating spirituous liquors as drugs and medicine."

This is disconcerting; but, as *Current Opinion* explains it, Mr. Coler's testimony applies to New York City alone, and it is probable that the last place in the country to conform to the law will be New York City. In the country at large, according to the new president of the Anti-Saloon League of America (Bishop Thomas Nicholson), Prohibition is at least seventy-five percent effective, and the vigor with which the law is enforced is increasing.

The editorial in question refers to several independent investigations, one of them having been made by Sir Arthur Newsholme, late principal medical officer of the Local Government Board, England. This noted British physician concludes that facts do not bear out the frequently expressed assertion that the Eighteenth Amendment was passed through coercion of legislatures and in opposition to the will of the majority. He also expresses the opinion that probably in over something like nine-tenths of the territory of the United States prohibition is being enforced fairly.

Another British investigator, Mr. P. W. Wilson, until lately American correspondent of the London *Daily News* believes that prohibition has come to stay, that it is a policy particularly approved by women, that it has virtually stopped the consumption of beer and has enormously reduced the consumption of wine and spirits without stimulating, so far as can be discerned, the taste for drugs. The *New York Herald* finds, after an investigation of its own, that in nearly every part of the country there has been a marked decrease in crime in the last two years. A decrease in the number of insanity cases in some sections and, judging by court records, an improvement in the domestic relation also is noted.

In so far as physicians are interested professionally in alcoholic beverages, it is said that they seem to be swinging over rapidly to the view that alcoholic drinks are not necessary in medical practice. Recently, the *Journal*

of the American Medical Association undertook a questionnaire to 53,900 physicians of the United States.

The first question asked was: "Do you regard whisky as a necessary therapeutic agent in the practice of medicine?" The second and third questions were worded in the same way except that beer and wine were substituted for the word whisky.

To the first question, 30,843 replies were received. Of these, 15,625 (51 percent) said yes; 15,218 said no. To the second question (as to beer), 23,663 (74 percent) said no; 7,934 said yes. To the third question (concerning wine), 20,648 (68 percent) said no; 9,803 said yes.

Out of the fifty largest cities, only two gave a majority in favor of beer—Jersey City and Scranton; only seven gave a majority in favor of wine; 32 gave a majority for whisky.

Another question asked was: "How many times have you found it advisable to prescribe these liquors in a month?" In reply, 44 percent had prescribed whisky one or more times, 30 percent had prescribed wine, 16 percent had prescribed beer. Even in the big beer cities, beer received a very light vote; 91 in Chicago prescribing it, 371 not; in St. Louis, 34 prescribing it, 142 not; in Milwaukee, 22 prescribing it, 58 not; in Cincinnati, 9 prescribing it, 99 not.

The replies from the large cities were more favorable to all three drinks than in the less populated districts and more favorable in the eastern states than in the middle and western states. The highest plurality for whisky as a therapeutic necessity was given in New York State—66 percent, with the District of Columbia next (64 percent), and New Jersey and (strangely enough) New Hampshire in a tie for third place (63 percent). The lowest percentage came from Oklahoma (36 percent), with Indiana and Alabama next (38 percent).

Current Opinion admits that questions of science are not, of course, to be decided by a count of noses or by legislative enactments, but it is significant and surprising to find that nearly one-half of the physicians of standing regard whisky as unnecessary even in medical practice and that more than one-half—56 percent—prescribe it less than once a month. It is equally surprising to find wine in such disfavor that nearly seven out of ten physicians declare it unnecessary.

The *Current Opinion* editor concludes by quoting the *New York Times* as saying that observers, who try to see the situation as it is, will incline to the belief that prohibition is neither so much of a failure as its enemies insist, nor so much of a success as its friends claim. That it has made a big change for the better in industrial circles, is the verdict of all employers of labor. That much seems to be a certainty among all the uncertainties, and it is not a little.

THE USE OF ALCOHOL IN PHARMACY

In the preceding editorial, the assertion has been made that the provisions of the Eighteenth Amendment are being carried out fairly well, and that the outlook for more thorough enforcement is favorable.

A questionnaire among physicians disclosed the fact that a minority of medical practitioners employ whisky or brandy or wine or beer as therapeutic agents. The mere fact that a drug, no matter of what kind, is not employed by the majority of practicing physicians does, of course, not indicate its uselessness or mean that it may be deleted from the Pharmacopœia. Even if a drug is not official, it may be utilized by numerous physicians in their daily work and with great advantage. The fact remains that a considerable number of physicians are convinced of the decided value of spirits or of lighter alcoholic beverages under certain conditions of illness and especially in emergencies. As long as these physicians entertain such a conviction, they have unquestionably the right under the provisions of the Eighteenth Amendment to utilize these therapeutic agents.

There is another question, however, in which the therapeutic use of alcoholics is not concerned directly, but, which, nevertheless, is of primary importance to the physician and that is, the use of grain alcohol in pharmacy. This important factor is commonly lost sight of altogether. Yet, even physicians who refrain from using whisky or brandy as stimulants utilize constantly therapeutic preparations in the production of which alcohol has entered as an essential agent.

A few months ago, Prof. James H. Beal, chairman of the board of trustees of the U. S. Pharmacopœia convention, made the following remarks in a letter addressed to the *Daily Courier*, Urbana, Illinois, which express our meaning fully.

"Alcohol is the most valuable solvent for medicinal principles known to science. The Pharmacopœia recognizes the pure liquid in three degrees of concentration, and approximately one-half of the liquid official prepara-

tions contain it in percentages ranging all the way from 1 or 2 percent to 94 percent. The National Formulary, also officially recognized by the United States Government, likewise contains a very large number of alcoholic preparations.

"Owing to the government tax upon it, alcohol is a very expensive liquid, and pharmaceutical manufacturers and research workers have for many years attempted to find some other equally efficient solvent but, up to the present time, no other liquid has been discovered that is capable of replacing it in the extraction of valuable medicinal principles or in the preservation of medicinal preparations.

"The American Medical Association has not passed any resolutions in opposition to the use of alcohol in medicine. It did at one time adopt a resolution to the effect that whisky and brandy, as such, were not essential, for the reason that the essential constituent of these two liquids—alcohol—could always be obtained in the pure state.

"There is probably no physician in active practice who does not find it necessary either to use or prescribe medicines containing alcohol or prepared with the aid of that solvent. To deprive medicine and pharmacy of alcohol, would be, to deprive the physician of some of his most valuable therapeutic agents."

In view of these facts, the question of the use or non-use of alcohol in the practice of medicine must be understood as comprising two essential factors, the one referring to the clinical use of whisky, brandy, wine or beer, which has fallen into more or less disuse only partly because of the conviction of physicians that alcohol used in this manner is not necessary, partly, though, because of the many inconveniences (not to use a more severe term) attaching to the taking out of a special license and all that is connected with it. The second, far more important, factor relates to the unavoidable utilization of alcohol as a solvent for remedial agents.

While the first factor must be admitted to be more or less dependent upon individual opinion, the second factor is not under discussion but constitutes an indisputable fact.

In view of this last named consideration, the plan to permit the use of denatured, premedicated alcohol as a solvent in the preparation of remedial agents, should be opposed by physicians the country over, even as it is opposed by pharmacists. As the article appearing on page 304 of the April issue of this journal clearly outlines, the only ones to gain would be the manufacturers of patent medicines and nostrums. The manufacturing chemists who put out bona-fide preparations for pharmacists' dispensing and physicians' prescribing would be sadly handicapped, and the patient would be seriously injured, not only in the quality of their drugs but also in money.

CARE OF THE BABY

The "Care of the Baby," a new and enlarged edition of a former publication of the same name, is contained in the recent number of the weekly Public Health Reports of the U. S. Public Health Service and is now being reprinted for general distribution. Its eminently practical character is shown in the section on bathing the baby.

This publication can be secured at a moderate price from the U. S. Public Health Service. It might save physicians much trouble in personal instruction to secure a number of copies and distribute them to their young mothers.

The true law of the race is progress and development. Whenever civilization pauses in the march of conquest, it is overthrown by the barbarian.—Simms.

IN THE MERRY MONTH OF MAY

The merry month of May is not only the month peculiarly devoted to youth and to love, but it is a good season for us oldsters to undertake various jobs of rejuvenation and restoration. May is a good month for planning your vacation, just as it is a good time for overhauling the car, so that it shall be in excellent running order for that vacation trip.

In this issue of CLINICAL MEDICINE, there is an interesting description of the delightful country among the Muskoka Lakes. We opine that a very happy vacation time might be spent up there.

May is also a good time to prepare for the various vicissitudes and visitations that our patients are likely to be subjected to during the summer months. Overhaul your medicine cabinet, Doctor, and prepare for the socalled summer diseases, both in adults and in the children. Better still, read up on dietetics and nutrition and instruct your clients in matters of proper feeding during the hot season.

One of the problems that loomed especially large to us during the last few years was that of protecting several patients against hayfever. Measures for this should be inaugurated not later than early in May. This writer does not believe that the socalled intensive immunization by means of pollen vaccine is desirable. He has learned to administer far smaller doses than he did before and also to space them at less frequent intervals. With respect to hayfever, a communication by Doctor King (p. 369 of this issue) intrigues us. The principle of

autotherapy introduced in modern medicine by Dr. Chas. H. Duncan, of New York, some years ago (it had been known centuries ago and forgotten), does not impress us as strangely as it did at first. Indeed, we have come to believe that autogenous biologics very often are endowed with peculiar merit. For that reason, Doctor King's experiences in the autotherapeutic management of hayfever clearly call for investigation and confirmation.

The month of May, in which the year has actually begun in so far as spring is its childhood period, is a suitable period also for many other things, such as changing locations, retiring from active work and so forth, with respect to which various communications in this issue of CLINICAL MEDICINE deal. Somehow, we feel much more like wishing everybody a happy year in springtime than we do in the cold winter period, on January first. Spring is stimulating, encouraging, joyful, and we believe that the Romans had the right idea when they started the year with the very first spring month of southern Europe (March).

OPPORTUNITIES FOR SERVICE IN VENEREAL-DISEASE CLINICS

The Section on Venereal Diseases of the Associated Out-Patient Clinics, of New York, which, as we understand, are associated with the American Social Hygiene Association, has offered to act as a clearing house for information regarding opportunities for dispensary assistants in the venereal-disease clinics in New York City.

Many applications for assistants in venereal-disease clinics have been received by the Associated Out-Patient Clinics. These positions are both for men and women, graduates and students. In most instances, physicians with no special training in venereal disease will be considered. Any physicians who desire an opportunity to learn this specialty should communicate with Dr. Alec N. Thomson, 15 West 43rd St., New York City.

Doctor Thomson informs us that this service is limited to New York City and is for the clinics represented in the Associated Out-Patient Clinics. However, as director of the Department of Medical Activities of the American Social Hygiene Association, he is trying to render a clearing-house service upon all phases of venereal-disease control, to physicians, health officers, clinics, nurses, and so forth, all over the country.

This service appeals to us as possessing wonderful possibilities. The American Social Hygiene Association is well established and is doing splendid work. The problem to the solution of which it is devoting its energies is an important one—one of the most important of the day. Doctor Thomson would be glad to hear from physicians throughout the country in relation to the service that he is trying to establish. We believe that his clearing-house service might easily be made national, to the great benefit, especially, of venereal-disease clinics to be established in smaller towns and villages.

To arrive at a just estimate of a renowned man's character, one must judge it by the standards of his time, not ours. Judged by the standards of one century, the noblest characters of an earlier one lose much of their luster; judged by the standards of today, there is probably no illustrious man of four or five centuries ago whose character could meet the test at all points.—Mark Twain.

PREVENTIVE MEDICINE AND THE GENERAL PRACTITIONER

The well-known story about the Chinese custom of paying physicians to keep their clients well and ceasing payment during illness has often been denied as being not in accordance with facts. Nevertheless, according to Dr. Grace S. Wightman, of the Chicago Municipal Tuberculosis Sanatorium (*Bull. City of Chicago Municipal Tuberculosis Sanitarium*, March), a famous Chinaman is quoted by the *Texas Siftings* as follows:

"The more I study Americans, the more I am convinced that they are mentally diseased. Instead of doing everything in a common-sense manner, they try all they can to do it in the very opposite way. At home, for example, you and the other members of your Mutual Health Association would pay Dr. Wun Lung and his assistants each a liberal salary to keep you all well, and pay nothing when you are sick. On this account, he and his young men work very assiduously in regularly calling and examining every member of the family, and all of you enjoy comparative immunity from illness. Here in America, a physician is paid by the amount of your sickness, and the less you are able to earn any money the larger and more onerous is his bill. As a result, some doctors, I am told, yield to temptation and keep their customers sick. The consequence is that those who have the largest number of sick and dying are the richest, most esteemed and influential, while in China they would be ostracised and not allowed to practice."

Doctor Wightman naturally is much impressed with the possibilities and the necessity of preventive medicine. She believes that the

health problems of the country can largely be solved in that manner. Among other things that are necessary in order to bring about preventive medicines, she refers to annual physical examinations as a requisite.

It is a general custom to let George do it. We have delegated the care of the people's health to the various boards of health and other health agencies that have been established by law and whose behests and rulings (let it be admitted honestly) are obeyed usually with mighty poor grace and under vigorous protest. That, of course, is true only for the individual case. We are quite certain that we ourselves, individually, and possibly most of our families, also individually, do not need to fall under the sway of the boards of health because—well, just because. For the great mass of people, of course, the rulings are necessary and quite all right. But, as for our own individual case—why, the thing is absurd.

Thus, it must be admitted, the work of the boards of health is not always either easy or smooth. Moreover, it is a matter of record that most communicable diseases show a gratifying diminution, certainly in mortality and, in many instances, in morbidity as well, while what Doctor Wightman calls the degenerative diseases in adults are clearly increasingly frequent and fatal.

Now, it manifestly is far less difficult for the boards of health to deal with the problem of the common contagious diseases than it is in the case of the socalled degenerative diseases. General and individual isolation, disinfection of clothing, rooms or houses, the deliberate immunization by means of biologic remedies, and (first and foremost) the insistent and persistent preaching of the virtues of cleanliness, including soap and water applied with plenty of elbow grease, and the superior advantages of pure air, sunlight—all have contributed to produce tangible results that justify us in assuming that the problems of communicable diseases will be solved some day.

It is different with the "degenerative" diseases which are not communicable from one person to another but are absolutely and strictly individual.

It is pointed out justly that preventive medicine has been accepted almost generally, at least in theory, in so far as concerns diseases of the teeth. A great many persons visit their dentists at set intervals and also send the children for dental examinations. In this manner, trouble can be discovered at its earliest beginnings and can be held in check.

Doctor Wightman points out quite truly that virtually all of our degenerative diseases can be traced to bad personal hygiene, to wrong diet and wrong habits of exercise, wrong mental habits, and so forth. Virtually all of them can be arrested by correcting the wrong habits, *if detected in time.* It is because of this fact, she concludes, that annual physical examinations are so important.

In order to be effective, such examinations must be far more thorough and detailed than those that are commonly undertaken at present. Indeed, relatively few doctors are equipped for the work because their training and their practice have been chiefly in remedial medicine. Moreover, it takes a much more detailed knowledge of the human machine to be able to overhaul it thoroughly than to be able to tinker with symptoms—just as it takes more thorough knowledge of machinery to be able to overhaul an automobile engine and put it in perfect shape than it does to determine whether or not the engine needs more gas or more oil or water.

It is important, of course, to determine functional irregularities in their incipiency. Merely to ascertain that there is nothing organically wrong with a person does not assure us that he or she is in perfect health. In common with the general trend of medical thought, the physician who undertakes such examinations must be trained to think along functional lines and not limit himself to reasoning on the basis of pathological changes.

Doctor Wightman estimates that six hours' time (one-half day) is all that the busy man or woman ordinarily need set aside for the purpose of securing a complete examination. This is certainly much less time than will be lost eventually if degenerative diseases are allowed to develop. At the present time, the cost of a thorough examination, including the average amount of routine laboratory work, is $25.00. This amount would suffice to pay for about five or six doctor's visits during illness It is, therefore, evident that annual examinations cost less in time and money than a few days' illness. The greatest value from such examinations is not, however, a saving either of time or of money. The great value comes from the gaining of positive health; from the attainment of a physical state that will enable the individual to develop to the full in body and mind and spirit, that will go far toward removing the drudgery from work and will permit the individual to fulfill his highest possibilities.

Of course, we are fully aware of the fact that all this is not new. Preaching a more gen-

eral elaboration of preventive medicine has been on the program for years. It is to be hoped, though, that it will come in the foreground much more insistently. People can readily be sold on the idea of buying insurance. And what can be demonstrated more convincingly than the fact that periodical examinations amount to buying health insurance? Moreover, we have a hunch that it is in this direction that the future work of the general practitioner will develop—greatly to his own advantage and to that of his clients.

He only is advancing in life whose heart is getting softer, whose blood warmer, whose brain quicker, whose spirit is entering into living peace.—Ruskin.

THE SINGLE-ROOM HOSPITAL

In an editorial article appearing in this journal for April 1920 (p. 219), we referred to a communication to the *Journal of the American Medical Association* (Jan. 10, 1920, p. 123) in which Dr. Asa S. Bacon, Superintendent of the Presbyterian Hospital, of Chicago, discussed the many disadvantages of the ward system, coming to the conclusion that the private room for each patient, with its complete utility equipment, not only provides comfort but solves the basic problem of the hospital.

In a letter-communication (*Jour. A. M. A.*, Feb. 14, 1920, p. 479), Dr. Geo S. McReynolds, of Temple, Texas, related that the staff of the King's Daughters' Hospital, of that city, has abandoned the ward system entirely, each patient (charity or otherwise) having been taken care of in a private room.

Quite recently, we were favored with advance proofs of an editorial on the subject indicated in the title and containing a commentary on the single-room hospital, prepared by Dr. S. S. Goldwater, and which appeared in *Modern Hospital* for April.

Doctor Goldwater assumed that all experienced hospital men favor the use of single rooms, first, for all patients who desire and who can afford to pay for them and for the additional service which is indispensable for their proper care; and, second, for all patients who need single rooms and individual service, whether they can afford to pay for them or not. The real point at issue, Doctor Goldwater declares, is whether or not all patients do need single rooms. To put the matter differently, he asks, are the chances of care invariably improved; is the period of treatment unquestionably shortened; is the patient's comfort necessarily enhanced; is the safety of the patient always promoted by placing him in a single room rather than in a larger ward?

By way of answering these questions, Doctor Goldwater relates instances of actual happenings in a hospital "of at least average efficiency—a hospital in which the number of nurses employed for ward duty is somewhat above the average, a hospital in which only a small proportion of the socalled ward patients occupy single or 'separation' rooms and in which the practice prevails of employing special or individual nurses for some but not all of the ward patients who are thus accommodated." The eight instances that are related refer to patients who had been left alone for but a minute or so and walked into the hall or had fallen out of bed, or had otherwise gotten "out of bounds."

Doctor Goldwater concludes that a hospital, which places a sick person alone in a room without immediate supervision, assumes a great responsibility; the patient who is thus left alone runs a serious risk.

It is the duty of every hospital to provide single rooms for a certain proportion of its ward patients, whatever the cost may be; but, let us remember that, with every extension of this type of service, additions to the nursing force must be provided as a measure of safety.

As a possible alternative, Doctor Goldwater admits (facetiously ?) that perhaps he is all wrong. Perhaps, he says, "the time has come for the hospitals of America to adopt the practice of Japan, where it is the custom to invite the relatives and friends of patients to come and stay at the hospital to take care of their sick, to cook for them and feed them, and to give them the prescribed medication (and any other medication of their own choosing). I must confess that I was not much impressed with this kind of hospital care when I saw it in Japan recently; but it is quite possible that my judgment has been warped by long contact with American hospital conditions. If the Japanese system is good enough for America, the single-room radicals are right and I, a separation-room moderate, am wrong. It is for the sane and experienced hospital superintendents of America to decide."

Leading Articles

Vitamines in Food

By R. N. PERKINS, Omaha, Nebraska
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THE subject of vitamines in foods is one that should demand the attention of the general public as well as the scientific world. There has not been a scientific discovery, within the last fifty years, that offers such a wide scope of application for the benefit of humanity, as does the vitamine hypothesis. In the year 1882, Robert Koch proclaimed to the world that he had isolated the germ causing tuberculosis. This was a great achievement and was so received by the scientific world. The mere fact, that the tubercle bacillus had been isolated and studied in pure culture, meant little or nothing to the general public. It was not a discovery that had any significance outside of the scientific world. However, the discovery of the fact that the bodies of man and animals demand something in the way of food substance, aside from what we have heretofore believed necessary to support life, is something that can be applied, not alone by scientific workers, but by every adult member of the human family.

Heretofore, the measurement of food values has been by their calorific value. The confirmation of the isodynamic law has permitted us to apply to the measurement of food values the same method used in measuring coal; burning them in oxygen and measuring the number of heat units given off. Within the last twenty years, a great deal of work along this line has been done, with the result that the calorific value of most foods is accurately known. The point had been reached where it was possible to calculate the ration for all vocations in life, from the student to the soldier, when lo!! science again stepped in and introduced another factor that bids fair to make us change our ideas of food selection and the balanced ration.

Caloric Requirements and Balanced Rations

It has been established that the average man in the United States needed about 3,000 calories per day in order to support life and body weight. Experience gained in the United States army was, that the average soldier needed about 3,500 calories per day to support his activities. One pound of pure fat would supply this number of calories, but this would not be a balanced ration. Chemical analysis of all the different articles of food has revealed the fact that all foods can be divided into four substances, namely, proteins, carbohydrates, fats and mineral matter. A balanced ration has heretofore been considered a judicious mixture of these four substances, so proportioned as to contain the right amount of material to enable the body chemistry to carry on its metabolistic processes. Now comes another factor. Not only must the balanced ration consist of the necessary number of calories, its make-up so proportioned as to contain the required amount of the different food substances; but, in addition, it must be so selected, so served, as to contain, in an unaltered condition, the necessary amount of the different vitamine substances, whatever these substances be, in order that the nutritional functions of the body may be carried on in accordance with the plan of the CREATOR.

Evils of Restricted Diet

For many years, medical science has known of a number of diseases the cause of which seemed to point to the condition of living and the use of a restricted diet. In the Orient, a large part of the people live on a diet that is more or less restricted to fish and polished rice. It is among these people that the disease known as beri-beri is most encountered. To make a long story short, scientific workers have proven the cause of beri-beri to be in the absence of an essential dietary factor now known as vitamine B. It remained for Casimir Funk to isolate a curative factor for beri-beri, and it was he who applied the name vitamine to the substance he had isolated.

In the light of our present knowledge, vitamines are unknown essential dietary factors. Regardless of the amount of nutritious food that you eat, if it does not contain the necessary amount of the different vitamine substances,

the metabolistic functions of the body cannot be carried on as intended by nature. The year 1921 has brought us to a point where we must now recognize three different vitamine substances, which for the lack of better names are now called vitamines "A," "B," and "C." No one knows what 1922 will bring forth in the way of additions to the vitamine family; for, already it only remains necessary to actually separate two factors seemingly present in codliver oil, and vitamine "D" will be found. In view of this fact, it seems almost impossible to forecast the extent of the vitamine family, or the future possibilities of these unknown essential dietary factors, which have to this very day defied the efforts of the world's greatest scientists, to isolate and to determine what they are. That they may be classed as living entities is set forth by the fact that they may be killed by heat and other agents.

While it remains for science to determine the true nature of the vitamines, let us take advantage of the information already gained and use it for the benefit of humanity.

Vitamine A

Vitamine A is the oil-soluble vitamine and occurs chiefly in milk, butter, egg-yolk, fat, codliver oil, and in leafy vegetables like cabbage and lettuce. This factor is comparatively stable to heat. Its thermal death-point is near 248° F., which is nearly 23 degrees above the boiling point of water, so that it survives, not only the low heat of milk pasteurization, but most cooking processes. Most authorities agree that, while vitamine A is comparatively stable to heat, its destruction depends upon the conditions under which it is heated. Oxidation seems to play an important part in the destruction of this factor, so that, if oils are heated under highly oxidizing conditions, this factor is destroyed or weakened.

The physiological properties of vitamine A have been the subject of much controversity. The consensus of opinion is that this factor is essential to the growth and development of the old and young as well. The young, born from the mother animals, that, under feeding experiment, have been deprived of this factor, are either born dead or die soon after birth. Experience gained is that this factor is absolutely essential in the diet of women who expect to become mothers. Without this factor, the body is unable to produce a normal growth; hence, infants are born into the world that soon fall a prey to infection, the result of their low vitality. Vitamine A is considered by most English workers as the antiricket vitamine. This fact has not as yet been generally accepted by American workers. While it has never been possible to produce symptoms in animals like those of rickets in children, by feeding them a diet in which this factor is absent, it is known that codliver oil is almost a specific remedy for rickets, and that this oil is very rich in vitamine A. While the curative properties of codliver oil in rickets are quite generally recognized, it is also known that this remedy is not replaceable by other rich sources of Vitamine A. This fact has been advanced as an argument in favor of a fourth factor, or vitamine D. It remains for science to determine the relation of vitamine A to rickets, or the existence of another oil-soluble factor.

Vitamine B

Vitamine B is a water-soluble factor that is found in milk, yeast, eggs and in the seeds of many plants. Meats contain relatively little of this factor, aside from the fact that such secretory glands as the liver and pancreas are fairly rich in it. Fruits, such as oranges, tomatoes and lemons, vegetables like potatoes, cabbage, carrots, spinach and onions are found to be rich in factor B.

The thermal death-point of vitamine B, in neutral or slightly-acid solution, is near 220° F., so that in milk it survives the heat of pasteurization, and most cooking processes, outside of cooking under steam pressure, above the boiling point of water. This factor is very sensitive to conditions of reactions, alkaline or acids. While it is not destroyed under slightly acid conditions, at temperatures above the boiling point of water, it is readily destroyed below the boiling point, if the reaction is slightly alkaline. The practice of adding soda to the water in which vegetables are cooked serves to neutralize the free acids in the vegetables and change the reaction from an acid condition to that of an alkali condition. Boiling vegetables under an alkaline condition serves to destroy vitamine B.

Vitamine B is the antineuritic factor, according to most authorities. It was this factor that Funk had in mind when he applied the name "vitamine" to the substance he extracted from rice polishings and that served to relieve the conditions set up in the fowls which he had been feeding an exclusive diet of polished rice. Like the factor A, it is essential to the growth and development of the old and young as well. Aside from the fact that a continued absence of it from the diet will set up severe peripheral neuritis, finally paralysis of the limbs and muscular atrophy, there is little

definite information as to its exact physiological actions. Animals deprived of this factor become nervous and irritable, and lose their appetite, so it is more than possible that a deficiency of this factor may account for the actions of those individuals who seem to have a perpetual grouch.

Vitamine C

Vitamine C is termed the antiscorbutic factor, because its presence in the diet in sufficient quantity serves to relieve the condition set up in scurvy. The properties of this, the latest addition to the vitamine family, are still less defined than those of either factor A or B. Unlike vitamine A and B, factor C is very sensitive to heat. The thermal death seems to be near 122° F., if this heat be applied for any length of time. So, to get the full effect of this factor, the food substance must be eaten raw. While the thermal death-point of this factor has not been determined accurately under all conditions, there is some evidence to the fact that, if it is not destroyed by the low heat of milk pasteurization (145° F., for 30 minutes) it is weakened to such extent that, when infants are fed on pasteurized milk exclusively, infantile scurvy will develop, unless an antiscorbutic, such as orange juice, is given with the milk.

The chief source of vitamine C is, citrus fruits such as lemons, grape fruit, oranges, as well as raspberries and tomatoes. Vegetables, such as cabbage, lettuce, watercress, onions and spinach are all rich in this factor. It must be remembered, in making your selection of foods so as to obtain sufficient of this essential dietary factor, that, if it is not destroyed by cooking, it is weakened to such an extent, that large amounts of food must be consumed to get but a small amount of this factor. For this reason, such articles of food as cabbage, lettuce, tomatoes and onion are best eaten raw.

Aside from the antiscorbutic properties of Vitamine C, there is little or no information as to its physiological actions. It is generally believed that the presence of this factor in the diet, of even those animals that do not have scurvy, is necessary for normal metabolism.

Source of Vitamines

Our knowledge of the three recognized vitamines having been extended to a point where there is conclusive evidence that they are essential in the diet of the old and young as well, our interest naturally centers in the distribution of these essential dietary factors. At the present time, there is no quantitative test that can be applied to determine the exact percentage of the vitamine substance in any food, this for the reason that the exact nature of the vitamine substance is not known. Scientific workers on the vitamine hypothesis have been able to test various foods by actual experimentation, so that today we have some idea of the distribution of these factors in purely relative proportions. The system now in general use is the four-X system. If we allow four X signs to stand for the maximum amount found in any substance, then one X sign would have a value of ¼; two X signs, ½, and so on It must be remembered that our knowledge has not been extended to the point where all workers concur in the vitamine content of the different foods, hence the tables that will follow must be taken as merely guides rather than exact composition.

MEATS

(All tables from Eddy's "Vitamine Manual.")

	A	B	C
Beef hearts ...	x	x	?
Brains	xx	xxx	x?
Cod fish	x	x	?
Herring	xx	xx	?
Horse meat ...	x	x	?
Kidney	xx	xx	?
Lean muscle ..	0	0	x?
Liver	x	x	x?
Pancreas	0	xxx	?
Pig hearts	x	x	x?
Thymus	0	0	0?
Fish roe	x	xx	?

The knowledge thus far gained as to the vitamine content of meat is far from complete. The exact nature of the metabolistic functions of the vitamines are not much understood; as a result, their distribution over the animal body has little significance. The brains and pancreas seem to contain the largest amount of vitamine B, while the sweet-breads seem to be entirely lacking in vitamine substance. This seems rather surprising in view of what has been learned of gland extracts and glands' transplanting. It has been shown that, as the bodies of man and animals have the power of storing surplus energy, so have they the power of storing vitamine substance. As the vitamine content of milk varies with the vitamine content of the food intake, it is more than possible that the vitamine content of meat may vary in accordance with amount the animal had in reserve at the time of slaughter.

The vitamine substances seem to be widely distributed in the vegetable world. This is not only true of vitamine A and B, but of factor C as well. In forming your idea of the vitamine intake of the vegetarian, consideration must be given as to how the vegetables are served.

The thermal death-point of vitamine C is 122°

VEGETABLES

	A	B	
Cabbage	xxx	xxx	xxxx
Carrots	xxx	xxx	xx
Cauliflower ...	xx	xxx	xx
Celery	?	xxx	?
Lettuce	xx	xx	xxxx
Rutabagas	..	xxx	..
Onions	?	xxx	xxx
Parsnips	xx	xxx	..
Peas	x	xx	xxx
Potato, Swt....	0	xxx	xx
Potatoes	xxx	xx	?
Spinach	xxx	xxx	xxx

F., so that, if vegetables are not eaten raw, little or no factor C will be ingested. Cabbage, lettuce and onions are mostly eaten uncooked, and it is from these vegetables that this factor is obtained. It seems from this that the various salads containing raw cabbage, lettuce, onions, and fruit, have a food value not heretofore credited to them.

CEREALS

	A	B	C
Barley	x	xxx	?
Bread White...	..	x?	..
Whl. Wht. Brd	x	xxx	?
Corn Yellow ..	x	xxx	?
Oats	x	xxx	0
Polished rice ..	0	0	0
Rye	x	xxx	0
Corn embryo...	..	xxx	..
Malt Extract .	0	0	0
Wheat Bran ..	0	x	0
" Endosperm..	0	0	0
" kernel	x	xxx	0

One thing that is noticed particularly in examining the vitamine content of cereals is the almost complete absence of vitamine C, with only a small amount of the factor A. In white bread, made from high patent flour that has undergone modern milling processes, there is a question as to whether this contains any vitamine substance at all. The wheat kernel as a whole is rich in factor B, with a quarter portion of factor A, but lacking the factor C.

SEEDS

	A	B	C
Beans kidney .	..	xxx	..
Beans navy ...	..	xxx	..
Beans soy	x	xxx	0
Cotton seed ...	xx	xxx	..
Flax seed	xx	xxx	..
Hemp seed	xx	xxx	..
Millet seed ...	xx	xxx	..
Peanuts	x	xx	..
Peas dry	x?	xx	0
Sun Flr. seed..	x	..	..

What has been said of the cereals may also be said of many other seeds; namely, that they do not contain vitamine C. Many of them contain three parts of factor B. Only a few contain two portions of factor A. This seeming lack of vitamine C, from that portion of the plant that acts as the life part from which growth again takes place, leads us to believe that the factor C is not essential as a growth factor in the beginning of the plant's life, and that the factor C is synthesized by the plant after its tender sprouts have passed through the soil and into the atmosphere. The vitamine C content of such vegetables as cabbage and lettuce, that have comparatively large foliage area, seems to support this contention.

FRUITS

	A	B	C
Apples	..	xx	xx
Bananas	?	x	xx
Grape Fruit ...	..	xxx	xxx
Grape Juice ...	?	x	x
Lemons	..	xxx	xxxx
Oranges	..	xxx	xxxx
Pears	..	xx	xx
Raisins	..	x	x
Tomatoes	xx	xxx	xxxx
Limes	..	xx	xx

The classification of the various articles of food into such classes as meats, cereals, vegetables, fruits, etc., brings out many things of importance in our attempt to understand the vitamine hypothesis. Where complete vegetable growth is represented, as in the case of cabbage and lettuce, there is contained a fairly equal distribution of all three vitamine factors, the seeds and cereals being deficient in some one or two factors. In the case of fruits, we see almost a complete absence of vitamine A with large quantities of factor B and C. The tomato is in this classification termed a fruit; yet, we all know that it is in a sense a vegetable. Note the fact that the tomato is not only rich in the factor B and C, but contains two portions of factor A as does a number of other vegetables.

The fats and oils are to this date the subject of much controversy. Since the day that McCullum, Stepp and Mendel proclaimed to the world that butter and egg yolk fat contained a growth not found in other fats, the subject of fats has been of great interest to all workers. Vitamine A being an oil soluble factor, naturally it would be expected that it would be found in most natural sources of fats. The fact that such vegetable oils as cocoanut, corn and cotton-seed oil contain none of this factor has been explained as resulting from the fact that, in pressing the oil from the cellular structure of the plant, the vitamine

FATS AND OILS

	A	B	C
Beef fat	x	0	0
Butter	xxxx	0	0
Cocoanut Oil ..	0	0	0
Codliver oil ..	xxxx	0	0
Corn oil	0	0	0
Cotton seed oil.	0?	0	0
Egg yolk fat...	xxxx	0	0
Fish oils	xx	0	0
Lard	0?	0	0
Oleo Animal .	x	0	0
Oleo vegetable	0	0	0
Pork fat	0?	0	0
Tallow	0	0	0
Veg. oils	0?	0	0

is withheld by the cell structure and is not extracted with the oil. Codliver oil is very rich in Vitamine A. Its presence in the livers of many animals has led to the belief that this factor plays an important part in secretion. Even before the day when the existence of the vitamine was known, codliver oil has been used as a food for the building up of run-down individuals. The discovery of its high vitamine content has thrown a new light on the building-up properties of this much-used food, and the fact, that its use in many cases can not be replaced by other sources of Vitamine A, may yet lead to the discovery of other essential dietary factors yet unknown.

DAIRY PRODUCTS

	A	B	C
Skim milk powder	x	xxx	x?
Cheese	xx	x	?
Whole-milk powd.	xxx	xxx	x?
Condensed milk...	xx	x	0
Butter	xxxx	0	0
Cream	xxx	x	?
Whey	x	xxx	x
Whole milk	xxx	xxx	xx

The vitamine content of dairy products is of interest from several standpoints. RAW milk, just as it is drawn from the animal udder, is a food secreted for its young whose development is not complete, and it would naturally be assumed that it would not only contain that which is most essential in the way of food substances, but the necessary enzymes and vitamines required for its utilization. An examination of raw milk brings out the fact that it is rich in all known vitamine factors. While it does not contain as large a quantity of factor C as do some other foods, it must be supposed that normally it does contain all vitamine substances required for its own young until such time as the offspring is able to ingest other foods. While milk is normally rich in all known types of vitamines, science had shown that milk varies in its vitamine content. As our bodies have the power of storing energy, to be used as the occasion demands, so have our bodies and the bodies of animals the power of storing vitamines. The vitamine content of milk depends upon the vitamine content of the food intake of the producing animal. Not only is this true of the dairy cow, but it is also true of mothers. Milk, be it from the dairy cow or from the human mother, is not only a fluid secreted for its young, so proportioned as to contain not alone that which is essential in the way of food substances, but a mobilization of the vitamine intake as well. Where this is low, the milk produced may be insufficient to supply the young with the necessary vitamine substance required for health and vigor. In not providing the dumb animal with human intelligence, nature must have provided them with instinctive intelligence sufficient to enable them to select for themselves the food most suitable for their well being. When cattle are turned into the meadow in the spring, after a winter on dry feed, they gain weight out of all proportion to the calorific value of the food intake. Their eyes become bright and full of life, their coat becomes glossy, their whole being radiates with life and energy. This is the effect of the vitamines. They are life-giving in that they enable the body to carry on its metabolistic functions as intended by nature. Food eaten is assimilated, thereby furnishing the body with new material for cellular activity. Waste material is better eliminated, thus the whole being is tuned to the pitch intended by nature. In the production of milk we must go back to nature and allow the milk-producing animals to select for themselves that which is most essential for their well being, instead of keeping them on dry feed, the vitamine content of which is not sufficient to support their metabolistic processes.

MISCELLANEOUS ITEMS

	A	B	C
Alfalfa	xxx	xxx	?
Clover	xxx	xxxx	?
Honey	..	xx	0
Malt Extract .	0	0	0
Timothy	xx	xxx	..
Yeast Brewers	0	xxxx	0
Yeast cakes ...	0	xx	0
Yeast extracts	0	xxx	0

There are several other foods that have an interest from a vitamine standpoint. We have seen much in print as to the therapeutic value of yeast. An examination of yeast reveals the fact that it is rich only in vitamine B and has no value other than from the standpoint

of this one factor. It is the contention of those who offer yeast to the public as a food of great value that yeast concentrates within itself the vitamine substance, and that, the richer the media in which it is grown in the factor B, the greater will be this concentration.

The Relative Importance of Vitamines

While it is known that vitamines are essential dietary factors, it must be remembered that they are only factors and that our bodies demand food in which there is kinetic energy in order to supply us with brain and muscular power. The lesson that the discovery of the vitamine substances seems to teach is that, after all, our bodies are but a part of that great physical world that depends upon the source of nature for its existence, and that, if we get too far away from the great plan of the Creator in the selection of our food substance, we must pay the price of our ignorance by suffering some of the conditions set up by vitamine deficiency.

Vitamines seem to have a direct influence over body secretions. Their presence in the liver, spleen, lungs, kidney, pancreas and other glands of secretion seem to support this contention. When a wild animal like the tiger kills his prey, he first sucks his blood, later eating the contents of the stomach and such internal organs as the liver, lungs, spleen, heart, kidney and pancreas, rarely eating the muscular structure unless driven to it by extreme hunger. His instinctive intelligence has been his guide, in that he has selected as his food that portion of his prey's body that will furnish him, not alone with food of calorific value, but with food containing those essential dietary factors we now call vitamines.

When the white man first came to the continent of North America, he found a race of people that were full of life and vigor. They lived close to nature. Their food consisted of the flesh of wild animals, fish, and many raw or uncooked vegetables. The bread eaten by the Indian was made from whole corn ground between stones by the female of the race. Their medicine consisted of watery extracts from leaves, bark and the roots of herbs.

In contrast to this condition, we now crowd a large portion of our population into large cities, and we live on bread made from high patent flour, cold-storage meats and eggs, pickled meats and fish, canned fruits and vegetables, and yet we wonder why we have not the life and endurance our forefathers had. We often hear people say, "look at me. I am hale and hearty at 80 years, I have never paid any attention to these socalled vitamines." It must be remembered that this is the condition of our forefathers who tilled the soil and ate the products of their own labor. Our conditions are very much different. We live in large cities and supply our tables with manufactured foods the vitamine content of which has been depleted, either by manufacturing processes, or by oxidation as the result of age. Scientists have shown that, while it requires a temperature above the boiling point of water to kill vitamines A and B, they may be killed at atmospheric temperature by oxidation. The point that I wish to make plain to you is this: Our bodies demand food in which there is heat and energy. Protein, carbohydrates, fats and mineral matter will supply this need; but, unless there are ingested along with these foods those that contain all three vitamine factors, in an unaltered condition, the body can not burn up these food substances and convert them into life, energy and health.

Scientists have shown that we have the power of building up a natural defence against infection and that this natural resistance is raised or lowered as our vital energy is raised or lowered.

Feeding experiments have brought out the fact that, by feeding an animal a ration sufficient to support life and body weight but deprived of its vitamine content, the animal's resistance can be lowered to such an extent that it can be infected with organisms that under normal conditions would have no effect upon it. In reviewing the history of all infectious-disease epidemics, it is found that they have followed in the wake of famine and drouth, where people have suffered the lack of sufficient food, or have failed to so proportion their diet as to have it contain these essential dietary factors that are necessary for the building up of our natural resistance against infection.

We have our large cities, we have our modern methods of food production, manufacturing and distribution. It has taken a generation to build these great industries that are so essential to our modern way of living. Without them we could not exist. Let us not attempt to tear down the work of the past and present generations. But, on the other hand, let us all make a study of the food problem, and arm ourselves with the necessary information that will enable us to select for ourselves that which is most essential to our well being. In the end, our supremacy will be insured.

Food and Food Values

By MARY DUNNING ROSE, M.D., New York City.

THE object of this paper is not to set forth any new scientific data but to give us facts with which we may begin to solve some of our clinical nutritional problems.

"For many years, the subject of nutrition has traveled in deep ruts of habit, ignorance and prejudice." We hear that tomatoes are injurious—they are too acid, and that oranges may be given freely; whereas tomatoes are only half as acid as oranges. Red meats must be avoided while white meat of chicken may be eaten with impunity. Yet the tabooed red beef contains 18.6% protein, and chicken 21.5% protein.

Through the work of Pettenkofer and Voit, Osborne and Mendel and many other patient investigators, our knowledge concerning nutrition is becoming a science, these scientists and others are beginning to solve our great nutritional problems and we practitioners appreciate very greatly the wonderful work they are doing.

Today, we may compute fairly accurately the amount of food needed by man in different conditions of life. We may make young animals stunted or increase their size and stature by adding to or taking from their food certain well-defined substances.

The 15 or 16 elements, which we must have for our bodies, pass through the greatest chemical laboratory of the world—the vegetable kingdom—before they become available for utilization in our animal economy. For convenience of study, they are divided into five groups:

Carbohydrates
Fats
Proteins
Minerals
Vitamines

The Carbohydrates

The carbohydrates—sugars and starches—are C O H compounds. The term carbohydrate covers all the simple sugars and all substances which can be converted into simple sugars by hydrolysis.

Cane sugar, which by hydrolysis splits into two simple sugars, is called a disaccharide, a double sugar.

Starches, which are of high molecular weight and by hydrolysis yield many molecules of simple sugars, are called polysaccharide.

With the exception of milk, clams, oysters and scallops, the vegetable kingdom is our source of carbohydrates.

After a meal heavy in carbohydrates, the portal vein is rich in glucose; but, in health, the glucose content of the general circulation remains practically unchanged—1/10 of 1 percent. The carbohydrate is stored in the liver cells in the form of glycogen and, after a big carbohydrate intake, as much as 10 percent of the weight of the liver may be due to stored glycogen. This carbohydrate is largely converted into glucose and passes into the blood current, from which it is rapidly taken up by the muscles and tissues of the body.

Fats are complex compounds of C O H, and are the most concentrated form of fuel we have. Perhaps that is one of the reasons why the Master Builder stores them in our bodies—to have the greatest amount of reserve fuel laid away with the greatest economy of space.

That carbohydrates are changed into fat in the animal body is proven:

1: By the increase of fat, on a carbohydrate diet.

2: By the increase of fat in milk, on carbohydrate intake.

3: By the increase of carbon stored in the body.

4: By the respiratory quotient.

The chemical changes, which take place when fat is made from carbohydrates, are not known.

The Proteins

Proteins are C O H N and S compounds and are the tissue builders of the body. Every animal cell, excepting fat cells, must have its quota of N; and, since the proteins seem to have a corner on N, our food intake must be supplied with proteins appropriate in quantity and composition.

According to Sherman, "Proteins are very complex substances and, while much study has been given them, the exact chemical structure of a natural protein has never been fully determined.

Amino acids have the same general relation to protein that glucose bears to starch. . . .

The weight of a starch molecule is very high and yields a large unknown number of monosacchride molecules.

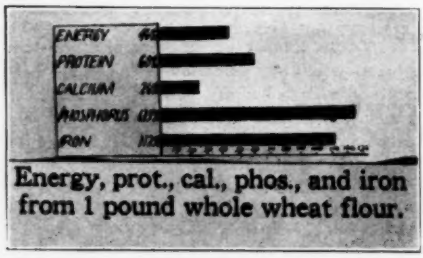
The weight of a protein molecule is very high and yields a large number of unknown amino acid molecules."

The difference: Complete hydrolysis of

*Read before the New York Women's Medical Society—Albany, 1922.

starch always produces glucose. Complete hydrolysis of protein produces several amino acids, usually 12 to 20.

The various amino acids satisfy different requirements in the animal economy; for example, Lysine largely influences growth of



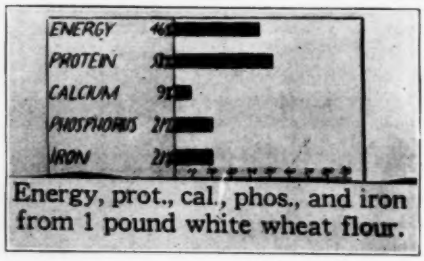
Energy, prot., cal., phos., and iron from 1 pound whole wheat flour.

young animals and must be provided for in the food intake if there is to be normal growth.

Tryptophane is a necessary amino acid of body tissue at all stages of existence, and life ceases unless it is present in the protein intake.

Glycine is another essential amino acid, but it is not necessary to provide it in the food since animals readily manufacture it from other nitrogen compounds.

To cover these various qualities of proteins, they have been classified into complete proteins, capable of maintaining the body and pro-



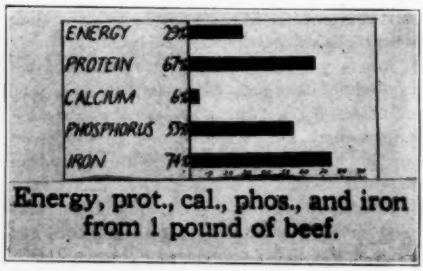
Energy, prot., cal., phos., and iron from 1 pound white wheat flour.

viding normal growth, found in milk, yolk of eggs, soybeans, etc.; partially incomplete proteins, capable of maintaining life but not normal growth—gliaden of wheat is an example. ("Man cannot live by bread alone.") Incomplete proteins, not able to support life or growth—zein of corn and gelatine are perhaps the best known examples.

The Minerals

Of the 16 essential elements of the body, the carbohydrates, the fats and the proteins supply but five. The remaining eleven are provided by the mineral group.

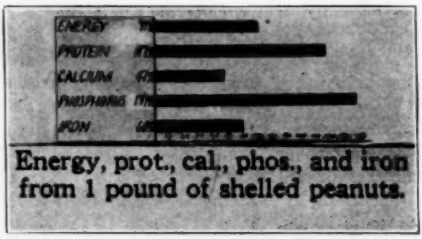
In the preparation of our food "by our sins of commission," we transgress more against the mineral than any other of the nutritional groups. For example, we know that the skins and outer coatings of food are rich in mineral elements, yet we peel or scrape them off, or bolt them out and throw them away. We know that they dissolve in water (more abundantly in boiling water, the same as sugar and salt do)



Energy, prot., cal., phos., and iron from 1 pound of beef.

but we thoroughly cook our food in water, dissolving out much of the iron, potassium, calcium, etc., and throw them down the sink with the water.

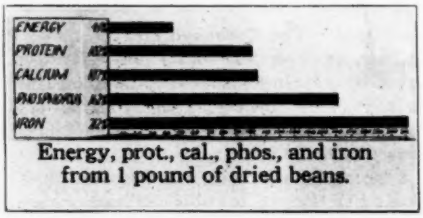
In a careful study of the dietaries of 92 American families, more were found defective



Energy, prot., cal., phos., and iron from 1 pound of shelled peanuts.

in calcium than in any other element; almost none were defective in protein. Milk and cheese are the best known sources of supply for calcium.

What part this continual loss of our mineral balance has in helping to produce some of the diseases of middle and advanced life, no one at this writing can say. It has been suggested



Energy, prot., cal., phos., and iron from 1 pound of dried beans.

that it may be the cause of the great increase in cancer.

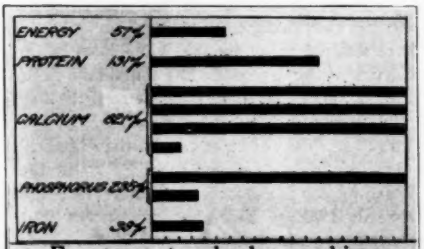
The Vitamines

The vitamines are chemically unidentified substances, but are necessary food accessories. They seem to bear the same relation to the

body nourishment that the sparks do to the carburetor. Unless the carburetor is provided with the proper mixture and a live spark, there is no power. Unless the body is provided with proper food and with vitamines, there is no power.

While hunting for a more satisfactory nomenclature, these vitamines are called Oil-Soluble A and Water-Solubles B and C.

Oil-Soluble A seems to be necessary for normal growth and receives its name because



Energy, prot., cal., phos., and iron from 1 pound of American Cheese.

it is found in oils and fats. It is found in codliver oil, butter, cabbages, carrots, etc.

Water-Soluble B is the antineuritic vitamine. Pigeons on a polished rice diet suffer from neuritis and become paralyzed. They recover in a few hours after being given 2 to 8 milligrams of Vitamine B. The coolies develop beri-beri on polished rice and, while not many of us live on such a very one-sided diet and, so, do not develop this deficiency disease so acutely, we believe that many are suffering more or less from this deficiency. Civilization has tried to improve on nature and has developed patent white flour, sugar, starch, lard, polished rice and other "purified" foods. Consequently, our dietary contains much less of the vitamine B than the natural foods, and it is probable that many of us are near the lower limit in Vitamine B intake.

This deficiency may lower one's resistance to disease invasion.

The chief sources of supply are milk, eggs, vegetables and yeast. The last is the richest known source.

Vitamine B is quite stable even with boiling, if in a neutral or acid medium, but is rapidly destroyed by heat in an alkaline medium. This explains why canned tomatoes as well as fresh ones are such a good supply of Vitamine B.

The antiscorbutic accessory food factor (Water-Soluble Vitamine C) is unstable and is quickly destroyed by boiling. Its most abundant sources are fresh fruits and vegetables.

We believe that our bodies have no store room for vitamines and an excess of them today passes out of the body and will not supply tomorrow's needs.

Conclusion

A balanced diet must furnish:

1.—Sufficient fuel—carbohydrates and fats.

2.—Proteins, adequate in their amino acids and in quantity.

3.—Mineral constituents, satisfactory as to quantity and elements.

4.—Vitamines—a sufficient daily intake of types A B and C.

The charts are from the U. S. Department of Agriculture Bulletin 975. They represent the proportion of energy, protein, calcium, phosphorus and iron needed per man per day, which is furnished by one pound of the article of food illustrated.

The pigs were taken from a litter and were as alike as two pigs could be. One was fed for 3 months on a balanced diet; the little one was fed for the same length of time on nothing but corn—all the corn he would eat. The protein of corn is deficient in the growth protein, lysine.

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The Diagnosis, Prognosis and Treatment of Carcinoma of the Rectum

II. PROGNOSIS

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[*Continued from March Issue, p. 177.*]

BEFORE taking up the subject proper, I desire to make an excursus—as our Continental brethren call it—on some aspects of cancer in general:

Every one must have noticed how variably different patients react to a given disease, even though the affection is inevitably fatal in the long run. Let us take, for examples, pulmonary tuberculosis, nephritis, diabetes, or what not; some individuals succumb quickly to a "fulminant" attack, as it were, despite resort to all modern methods of therapy. Others linger for weeks, months, or years, until some of them must feel like the English nobleman who—on his deathbed—apologized for being "such an unconscionable time in dying."

The same should hold true evidently for malignant growths; and it does. No better example that I know of as regards this phase can be furnished than three histories related by Peple a few years ago: The first was that of a man, of 40, who was suddenly stricken, while at work, with evidence of an acute crisis in the abdomen—pain, tenderness and rigidity, with rise of temperature. Removed hurriedly to hospital for supposed "appendicitis." On arrival, however, the trouble seemed to be in right upper (not lower) quadrant. Accordingly, an appropriate incision revealed the liver studded with nodules, which later proved to be duct-carcinoma. During his survival of a few weeks, he lay curled up in bed, drowsy and stupid, as if overwhelmed by some toxic agent.

The other two cases were in women with mammary cancer—one well-to-do, about 50 years old, the other a poor dressmaker, not over 30. In each patient, the carcinoma was discovered fairly early, and a radical operation was done. There were recurrences. Sometimes, these could be excised under local anesthesia; at others, general anesthesia was needed. These patients returned every month, or two or three, and made a heroic fight for their lives, the older woman lasting ten years, the other nine. In spite of their gallant resistance, both patients died under distressing circumstances, with recurrences in the thorax.

As the author well observes: "Here was heroic tissue resistance, which needed just a little help, just a little something, to turn the scale that had been tilting first this way, then that, for ten long years."

Malignant Growths Still Obscure

I believe we are, as yet, only on the threshhold of our knowledge of the etiology and pathology of malignant growths in general. There may be many factors which govern the incidence in the organs, in the individual, or in the race. Diet may have some effect, as may locality, racial customs or occupation.

Thus, in the discussion at the Medical Society of Budapesth, and referred to in the *Journal of the American Medical Association* (Dec. 31, 1921, p. 2135), it was shown that the death rate in Poland has been increasing steadily from 27, in 1890, to 43, in 1920. (This corroborates the experience in this country and in England). However, it was also found that Germans, Poles and Jews between them furnish 23 percent of the deaths from cancer in Middle Europe, while they make up about 20 percent of the total population. On the other hand, Russians, who constitute about one-third of the population, have a death rate of only 11 percent, a little less than half. Of the total deaths from cancer, about one-third were from tumors of the stomach, and the mortality was decidedly greater among the Germans and the Jews.

It has been found by animal experiments that there may be a sort of immunity to the carcinomas which can be transplanted in animals; as well as a sort of predisposition to them. Of course, if the source of the inhibiting substances should be discovered, say in the blood, it might be hoped that some therapeutic use could be made of the discovery.

Kross, however, injected blood from a so-called "immune" animal into a predisposed one, and found that the growth of tumors in the susceptible one was not checked. He also made use of a very ingenious plan, joining a susceptible animal to a refractory one, a sort of Siamese-twin affair (or parabiosis). As the circulatory systems of the joined animals are in communication, the substances—whatever they are—conferring quasi-immunity should be capable of transmission from one to the other. Unfortunately, no effect followed. It would seem that, if such immune substances are present, they are decidedly stabile; that is, not

readily transferred from one portion of the body to another.

As to Cancer Parasites and Other Causes

Not long ago, Nuzum (of Ochsner's Clinic) announced the discovery of a cancer parasite, and another is claimed by Young, of far-off Edinburgh. It may be that one of these is the long sought-for cause, but the number of alleged parasites disproved in the last third of a century or so greatly exceeds that of the articles in the League of Nations. It seems to me highly possible, judging from various investigations, that the cause will eventually be found to arise in some general condition affecting the body as whole; disturbed metabolism, for instance. I am well aware that this is not very definite, but I wish to convey the idea that the cause acts on the organism as a whole, not on a portion; and the predilection for certain sites (stomach, mamma, uterus, etc.) is due to some local change.

Virchow's old-time theory as to the effect of local irritation is corroborated by the investigations of the Danish investigator who fed rats with cockroaches containing nematoid worms. The latter, being set free in the animals, gave rise to so much irritation, that cancer developed. So, too, Japanese laboratory workers have produced cancer by painting the skins of animals with tar. When the cause of carcinoma is discovered (if indeed it ever be), we shall have to begin all over again. But, in the meantime, whether it be disturbed metabolism, parasites (or both or neither), we must revert to prognosis proper:

The Prognosis

Carcinoma of the rectum pursues an inevitably fatal course, as in the case of other visceral neoplasms. In Kocher's clinic, the mean survival of inoperable cases was 12 months from the first symptom. After his method of radical operation, it was 56 months (DuPan). In 71 patients in Cripps' series in whom no operation was undertaken, the length of survival was as follows:

Less than 3 months	8
Between 3 and 6 months	25
Between 6 and 9 months	23
Between 9 and 12 months	8
Between 12 and 18 months	3
Between 18 and 36 months	4
	71

(Average length of life, 7.8 months.)

The advantages of early diagnosis on the postoperative prognosis is shown by some more figures from Colwell and Woodman: In the patients who died in hospital, the average duration of symptoms was 22 months; the longest 5 years. In those who survived operation and were discharged from hospital, the average was only 16 months; and the longest only 3 years.

On some occasions, surgeons are not to blame; the patients themselves delay seeking advice. Thus, in the series related by Simmons and Daland, the average duration was 12.3 months, but the delay before consulting surgeon was 8.4 months.

So much for the untreated cases. What can we hope for after resort to surgery, and, of course, radiotherapy?

The operative mortality is high. Patients usually arrive with the disease so advanced that extensive dissections are necessary. Hence, there is considerable shock. Sepsis is another important factor and, some time back, Mayo placed it as high as 39.8 percent.

A little over 8 years ago, Hartmann collected, from 17 clinics beside his own, a total of 1665 low operations (*i. e.*, perineal and sacral) with a mortality of 15.8. In 260 combined (abdominoperineal) operations at his own and 21 other clinics, it was 37. At the Mayo Clinic, before 1910, the mortality was 17.8 and remained about the same for the next three years; but, for 1913-4-5, it was reduced to 12.5.

This again depends on the operability; and, here, we find the greatest variance, it being estimated at only 19 percent by Boas, 25 percent by Cripps, and by Witzel; while the Mayos put it at 71.8; Miles (of London) at 85, and Von Bergmann at 80. Back asked a number of London surgeons to give their estimate of the percentage of operable cases. The lowest figure was 20 and the highest, 40; while his own opinion is, that it is about halfway between.

As regards the end-results, these, while bringing about improvement, it is true, leave much to be desired. We can count on a good number of 3-year survivals, and a fairly satisfactory number of subjects who live so many years without recurrence, that they may be considered as "cures" without stretching a point.

In Cripps' series of 47 cases, some 35 had no return after from 3 to 26 years. Keen had survivals of 14 and 20 years, respectively. Herczel reported three of 15 years, two of 14, and two of 13. Out of 364 patients at the Mayo Clinic, 35.8 percent lived five years or more. Küttner claims that the advantage of the radical operation is not so much the mere

survival for some years, but the ensuing freedom from pain and discomfort.

One of the most common causes of failure in the experience at the Mayo Clinic has been the attempt to save a functional anus, resulting in either sepsis and death, or failure to obtain a permanent cure. This is due to the patients; for, to preserve the function, they were willing to accept a definite increase in possible mortality, together with a reduction in the prospects of permanent cure.

Recurrence of the Growth

Recurrence is generally at the site of operation. In 28 instances, Symmers found at necropsy that 15 had no secondary growths. The exact date of appearance is difficult to decide, but does not seem to depend on the technic. The types with great local involvement (especially the colloid variety) seem more subject to recurrence. The recurrence is always low down; in the perirectal cellular tissue, in the scar, rarely in the mucosa.

However, there may be no local recurrence, as in the patient of Mauclaire and Morestin: A Kraske operation was done, Aug. 26, on a woman of 54, for carcinoma of the ampulla present about 8 months. She lived till January, and necropsy showed no return in situ, but metastases about the internal iliac vein and in the liver.

When recurrence takes place, it is usually in a few months. Of 67 examples from Kocher's clinic, tabulated by DuPan, 31.6 percent returned in 3 to 36 months. In Kraske's 179 patients, 66 percent of the recurrences ensued within a year and caused death in two years more. In 38 of Cripps' patients, most of them (30) had return within a year (9 in six months), 7 in second year, and one after two years.

We know that recurrences after operation for mammary cancer have been found as late as 20 and 25 years, and the same holds good for the rectum. An interesting example of this is placed on record by Dent, and operated on by the crude methods in vogue in the early '80s: A man of 52 was operated on Nov. 2, 1882, by the perineal route. Nodes removed from ischiorectal fossa, anus preserved. Bowel could not be brought down, but good control persisted for solid, and partial for liquid feces. Jan. 29, 1904, the man was readmitted with evident metastases in liver. He died April 25.

Even recurrences are successfully removed. In 21 instances, Tuttle operated two times in 6, and a third and fourth time in 2 cases. In the last, the returns occurred after 10 and 5 years, respectively; and the reoperation gave 6 and 5 years' further lease of life. However, he was of the opinion that speedy recurrence (within a year) would not be helped by further operation.

Cripps reports a similar experience, a growth recurred in 6 weeks and was excised; it returned again some months later, and was removed for the third time. At the time of report, a quarter-century later, the woman was still alive and had not experienced any more recurrence.

Occasionally, extirpation of a chorioepithelioma results in disappearance of the pulmonary metastases, and it may be that reoperation in carcinoma of the rectum has a similar effect.

The end-results after radiotherapy are taken up in the final installment of this series.

(To be concluded.)

A Practitioner's Views on the Value of the Red-Cell Resistance Test in Syphilis

By C. D. COLLINS, M. D., Chicago, Illinois

EDITORIAL COMMENT.—The article presented herewith was to have been published in conjunction with Dr. Andrew M. Roman's communication, on his red-corpuscle resistance test, which appeared in the last (April) issue of CLINICAL MEDICINE. *Doctor Collins' discussion presents the views of a practitioner and thus forms a valuable supplement to the earlier one which was prepared from the laboratory worker's standpoint.*

The red-corpuscle resistance test appeals to us as reasonable. It is to be hoped that it can be proved to possess definite clinical value.

THERE is no problem more vexing than an uncertain diagnosis in any disease and, especially so, in syphilis. To know that a case is syphilitic, makes it an easy matter to lay out a definite course of treatments which will give excellent end results. But, the case of uncertain diagnosis causes the physician to halt between doubt and fear on the one hand

and duty on the other; and thus he pursues a wavering course which ends disastrously, both to himself and to his patient.

Where there are no clinical symptoms to guide us, we must trust to the Wassermann test for a diagnosis. Allowing that there are 15% of errors in all Wassermanns, we find ourselves still short of a satisfactory diagnosis.

A mildly positive Wassermann can, and often does, occur in other diseases, such as tuberculosis, food intoxications, sleeping sickness, parasiticism and any profound toxemia. The sum total of these false positive Wassermann's amounts to about 15%. These can be added to the above mentioned 15% of errors, making about 30% of all Wassermann's misleading so far as a diagnosis is concerned. We are still far from perfection and are seeking more light; for, mistakes are dangerous and costly.

No conscientious physician is willing to treat a case for syphilis when the entire diagnosis is based on a 20%-positive Wassermann test. The author has been in the habit of totally discarding such a diagnosis, and considers it a dangerous lead to follow. The medical profession has realized many disappointments in Wassermann tests, but had nothing else to depend upon until, recently, the red-cell resistance test was discovered and perfected by Dr. A. M. Roman, and has come as a very welcome adjuvant to the Wasserman test. It has the advantage of being used independently of the other or in conjunction with it, or even during the time of taking treatment.

The Red-Cell Resistance Test

The red-cell resistance test is an additional aid in the diagnosis of syphilis; not only because it acts as a check to the Wassermann test, but because it goes farther and aids in determining the exact status of the patient's condition with reference to both, syphilis and other diseases. It is not the aim of this paper to discuss or explain a technical laboratory process. Briefly, the red-cell resistance test is a laboratory process which aims to tell us the patient's true condition. Everybody's blood has a resisting power to hemolysis and this resistance is changed by the state of health or disease. Sapotoxin is the medium used for hemolysis in dilution of 1:12,000 to 1:13,500 to 1:14,800 and 1:16,000.

It has been determined by ample clinical and oft-repeated tests that normal blood will hemolyze in a solution of sapotoxin of 1:13,500. Also, that, due to the destructive effect of syphilis on the red blood cell, its resistance is reduced to a degree whereby it will hemolyze in a weaker solution. This has been determined to be 1:14,800-sapotoxin. In other words, a blood which will hemolyze in so weak a solution as 1:14,800 has a resistance below par and this reduced resistance has been due to the deleterious effect of syphilis.

In the same way, other diseases have their varying effects on the red-cell resistance and can be tested in the same way; but this does not concern us in this paper.

Significance of the Test

If a given case shows a positive Wassermann and the blood resistance test agrees by hemolyzing at 1:14,800, it is confirmatory and there can be no doubt of the exact status of the patient. Even when the patient is under antisyphilitic treatment, the test may be used with full assurance of a correct reading. A negative Wassermann may occur in a case where the red-cell resistance test shows the blood to be below normal, which is indicative of syphilis. In this case, the physician can be assured of a low-resistance patient of the anemic type, due to the poison of syphilis, and treat him accordingly. In other words, treat the patient's true blood condition according to these findings.

Many conditions arise during the course of several years of antisyphilitic treatment which are worthy of mention. Let me recite a very common one. Suppose a patient with a known syphilis has a course of treatment for a year and has a negative Wassermann follow. The treatment is rested for two or three months and again renewed with an intensive course for another year; the usual mercurial-arsenic and iodide treatment being administered. Again the Wassermann tests are negative. The patient is not so well in general, being somewhat run down and anemic from the drastic course of chemical treatment. Gastrointestinal disturbances are apparent, leading to nutritional disturbances and chlorosis. In view of these symptoms, the physician assumes that syphilis is the cause, and again renews the usual treatment for syphilis. His patient is in reality suffering from excessive medication and toxemia instead of from syphilis. After a period of treatments, another Wassermann test is made, and it shows positive. This is a false positive. It is a chemical and toxic positive and does not mean syphilis.

The False Positive Wassermann Reaction

What has really happened? The patient has been treated correctly at first and is safely taken through the first period of syphilis into a negative state. But, by prolonged treatment,

he has been carried on through the negative phase of the disease until his resistance is broken down, by long continued and excessive chemical treatment, into a positive again. But, this positive is a false positive. It is a toxic and chemical positive and not due to syphilis.

The red-cell resistance test under such circumstances will be the only way of getting a true reading of the patient's real condition.

Hemolysis in such a case would occur at 1:12,000 solution instead of 1:14,800, which would mean that the patient was suffering from chlorosis and anemia rather than syphilis and the treatment would be essentially different.

The longer antisyphilitic treatment is continued in such a case, the worse the patient becomes. The sooner the treatment is changed to tonics and reconstructives, the better for all concerned. To know when to stop antiluetic treatment, is as vital as to know when and how to begin it.

Given a case with a perforated septum nasi or a well defined luetic scar on the face, and let that patient apply for treatment to any well informed doctor. No matter what may be the real ailment, the patient is sure to get antiluetic treatment. Although he ask for treatment for the stomach, liver, rheumatism or a pain in the back, he will get but one and the same treatment, even if the Wassermann test is negative.

Such cases need a blood-resistance test, a differential count and a Wassermann test, in order to make possible any intelligent idea of their true condition.

It is fatal for a patient to even mention having had syphilis, no matter how many years ago the infection occurred; for, at once, the physician's mind will act only along one line, and the only thing he can think of doing is to double the dose of mercury, iodides and arsphenamine.

Here are some illustrations drawn from private practice. A patient having intestinal parasites gave a 2-plus Wassermann and was treated for syphilis for more than 10 years, although no clinical symptoms appeared. Of course, the patient did not have syphilis. The red-cell resistance test pointed the way and the patient was speedily cured by antiparasitic remedies.

A lady with a false positive Wassermann was subjected to a long course of treatments which ended in neurasthenia, and a nervous breakdown. She responded to treatment for the same and made a complete recovery, the diagnosis being made by the red-cell resistance test.

A case with septal perforation was treated through the positive stage and into a negative, and then on into a break-down and into a false positive Wassermann again, and on into anemia, chlorosis and complete invalidism, before she fell into wiser hands. She made a rapid recovery by stopping all luetic treatment and being put on reconstructive treatment. Blood-resistance test and differential count pointed the way.

Positive Wassermanns do not always mean syphilis nor does a negative always mean good health, unless corroborated by the red-cell resistance test and a differential count as well.

When the laboratory will furnish us with these more accurate findings, which set forth more information than a simple negative or positive Wassermann gives us, and will tell us just what state of health and resistance our patients are in, then we shall be prepared to treat them accurately and with curative end results, and then we shall no longer treat our patients erroneously by the name of a disease.

An Epoch in Stammering

By ERNEST TOMPKINS, M.E., Pasadena, California

SECOND, probably, only to the year 1, Anno Domini, in its importance to the human race, will stand the year 1914. Not a harbinger of world peace, but of world war, it brought a degree of suffering that has awakened the human intellect to an unrealized revulsion against avoidable affliction, and which will undoubtedly develop into an unsurpassed reformation against injustice, ignorance and superstition. Like the swirling, tattered clouds that we see in the grateful calm following the terror of the electric storm, so we see the separation and re-formation of old views and customs.

Among these are the old opinions concerning stammering and the custom of treating it. This peculiar and mysterious disorder, probably older than any human affliction brought to attention by the war, older than government, older even than organized war itself, heard its death warrant read in the year 1914. True, it has paid little heed; and equally true,

its death, like that of most ancient and undesirable institutions, may be slow; but, none the less, it is inevitable.

Although the real warrant, of which more will be said later, is a foreign document[1] (still untranslated, I believe), there was in that same year a notable domestic treatise by John Madison Fletcher on the same subject,[2] and it is with this and its consequences that we are here first concerned. It clearly described the genesis of stammering by an accidental interruption of speech and recognized it as applicable to the cases acquired by imitation; it recognized the nervousness as effect instead of cause; it found that the difficulty factor is not with the sounds themselves but with the experiences connected therewith; it attributed the continuing cause to emotion; it found that the essence of the affection could not be laid to any form of breathing, articulation or vocalization; it recognized that the expectation of stammering induces stammering; it found the heredity views to be opinions merely, and conflicting ones at that; it said, "The subjects are not to be distinguished physically from other people" and "Their thought processes are logical."

Although it did not reach a definite conclusion as to the nature of the affection or to a means of combatting it, this report probably contains a higher proportion of dependable conclusions than any contribution to the subject which had preceded it in this country, and, excepting the one just mentioned, in any other country. But, it was apparently ineffective in even reducing the current misconceptions of the disorder. The old myths of inheritance, of structural and organic causes, of physical deficiency and lack of logic in the stammerer, continued to appear. So, we heard from the author again; and, bearing in mind that his first and highly valuable effort had fallen on stony ground, we may understand the plain speech and earnestness of his second contribution, an appeal which appeared in the *Journal of the American Medical Association,* (April 8, 1916). Read a few sample quotations. "In this country we not only have no public conscience, but we have not even an intelligent professional opinion on the subject. Woe betide the man who sells us impure food or drugs; but, in this realm of human needs, unmolested frauds are preying on afflicted humanity. . . . In view of the gravity of the condition and in view of the numbers afflicted, such trifling is not only not creditable but also criminal." "The sufferers from this affliction have looked to the medical profession for relief since the existence of that profession and have looked in vain." ". . . regarding this old, old malady, whose record dates back at least to the Egyptian hieroglyphics, there is in the medical world of today little more than a confusion of personal opinions and theories." —"Unmolested frauds," "no intelligent professional opinion," "criminal"—these are severe arraignments. But, the article was not an arraignment purely, it was a constructive criticism. Its author said, "The subject is of sufficient importance to deserve better treatment. It is with the view of helping toward a clearer understanding of it that I have asked to be heard."

Stammering, Not Stuttering

It is not the intention of this present article to fully review that other one; but to use it for its expressed purpose—to help to a clearer understanding of the subject. However, the opening suggestion, namely that the term "stuttering" be used to designate the leading speech affliction, was unfortunate; for, such use is contrary, both to established custom and to etymology, as was shown in the *Journal of the American Medical Association,* in a communication printed June 24, 1916. Stuttering is repetitive sound (not necessarily speech). There is in use a light motorcycle, recognizable at a distance by a regular staccato exhaust. The boys who own heavy motorcycles call it the "stuttering bicycle," exhibiting thereby etymological knowledge superior to that of many of our speech specialists. The convulsive speech impediment is *stammering.*

Cause Mental Rather Than Physical

The portion of Fletcher's article which is of importance here is, his showing of the trend of thought in regard to stammering—how it moved from the structural and organic to the mental. He says, "A good many writers on the subject have called attention to the fact that the diagnosis of this condition has passed through several distinct phases. The first stage considered that the seat of the malady was in the peripheral organs, the tongue being the chief offender. Gradually, the seat of the difficulty has been shifted from the peripheral to the central region. The theories, as to just what the nature of this mental involvement is, are quite numerous. . . . There are theoretical and factual objections to many of the psychologic diagnoses that have been offered. But, this is not the place to discuss the

1. Liebmann, Dr. Albert: "Die psychische Behandlung von Sprachstörungen."
2. "An Experimental Study of Stuttering." *Am. Jour. of Psychology.* Apr., 1914, p. 203.

value of the individual theories. It is rather the purpose to point to the fact that the almost unanimous verdict, even of medical opinion, traces the defect to causes that lie essentially in the mental realm. . . *There is no essential structural or organic condition demanding medical attention in the case of the stutterer.* . . ."

However slight may have been the impression elsewhere of Fletcher's plea, it seemed to have weight with the *Journal of the American Medical Association*—for four years. Then, August 28, 1920, appeared therein an editorial endorsement of Robbin's claim to have experimentally substantiated the Bluemel transient auditory amnesia theory of stammering; and, now comes Blanton's general conclusion that stammering is a motor difficulty under the specific heads of (1) "Paresis and other brain lesions;" (2) "endocrine-vitamine group of oral inactivities;" (3) psychoneurosis; (4) "the hypomanic type."

Are these recently published views steps forward or backward? Do they follow Fletcher's plea for a clearer understanding of the subject to the end of relieving acute human suffering or do they revert to the superstitions that have perpetuated that suffering for five thousand centuries, and that make it today one of the leading derisions of human intelligence? Let us see.

First, let us meet the conditions that the stammerer need not be defective structurally, organically or logically. This is positively not to say that stammerers do not have the usual proportion of defects in all three respects, for they undoubtedly do have them; but these defects have never reliably been shown to be connected with the stammering and there is dependable evidence that they are not so connected. The selection of defects in the stammerer and the allegation that these are the cause of his impediment, because both occur in the same individual, come under Fletcher's charge of "wholly inadequate investigation." The fact remains that, as a rule, the stammerer is sound, both physically and mentally.

Bluemel's Amnesia Theory Invalid

Does the Bluemel amnesia theory violate the condition that the stammerer need not be physically unsound? Yes, it does violate that condition, and Bluemel himself says so; to wit, "Ball records a case that shows clearly the effect of auditory amnesia. . . . He said, 'The words I can't pronounce are the words I can't hear.' The patient was unable to understand particular words because the auditory cells subserving them were impaired. But, on account of this impairment, he could not invoke the auditory images, and hence was unable to pronounce the words in question. This phenomenon precisely illustrates the amnesic condition that occasions stammering; though in stammering the amnesia is transitory and the word deafness is little in evidence.[3] If the Bluemel theory is valid, the stammerer must have an impairment of his auditory cells; but, since the condition to be met is, that no impairment is necessary for stammering, the Bluemel theory is invalid—invalidated by the words of its own author. Nor can Bluemel find defense in the claim that the word deafness is little in evidence (Dr. Makuen could find none connected with the stammering in 1,000 cases).[4] Fletcher's dictum holds, "The subjects are not to be distinguished physically from other people." Collect all the speech specialists in the world; bring before them an individual enjoined not to speak; let the specialists put them to any test not involving speech; and, with all their combined knowledge, they will be impotent to tell whether that individual is a stammerer or not. *"The subjects are not to be distinguished physically from other people."* The Bluemel theory is invalid.

Blanton's Theory Likewise

Consider now Blanton's types (1) and (2). The first involves a brain lesion; so, of course, it goes out along with Bluemel's amnesia. The second involves a bodily deficiency; so, it also goes out.

Blanton's types (3) and (4), the hysterical and the hypomanic may be considered better by other tests. Apply to the hysterical type the very test which Blanton supplies in his definition of it, "Caused by suggestion and cured by suggestion." Then suggestion is a cure for stammering. But, if so, why did Dr. Blanton fail to enumerate it in his treatment? And, if he had enumerated it, what intelligent reader would have accepted it. It is true that suggestion will produce the fraudulent cures which are the life of the "chaotic" practices that Dr. Blanton mentions; but, that suggestion, from its weakest to its strongest forms, is any more beneficial than any of the hundreds of distractions used, has not been demonstrated: more accurately, the innumerable attempts to demonstrate it have failed.

Dr. Blanton's hypomanic type may be con-

3. "Stammering and Cognate Defects of Speech." Vol. I, p. 199.

4. Makuen, G. H.: "A Study of 1000 Cases of Stammering."

sidered in the light of another test. Notice that not even an attempt is made to demonstrate any one of his four alleged causes of stammering. Scientific procedure necessitates such demonstration. However, it is easy to show that one and all of these four alleged causes of stammering are invalid. A large proportion of stammering—possibly most of it—is due to imitation and association. So, continuing cause of stammering must conform to those inceptions. May one contract paresis by the imitation of a dialect? may one contract hysteria by the imitation of a dialect? may one seriously impair his internal secretions by the imitation of a dialect? may one acquire an emotional characteristic by the imitation of a dialect? Let the reader supply his own answers.

Dr. Blanton applies to some alleged causes of stammering, which he does not accept, a test which in fairness ought to apply to his own. That is, the test for intermittence by moving the transmitter switch when the stammerer is telephoning. When the stammerer thinks the auditor is connected, stammering occurs; but when he thinks the auditor is disconnected, fluency occurs. I think that Dr. E. W. Scripture first brought this test to public attention; and, as I remember, he showed that the real factor in the intermittence is not the actual connection but what the stammerer thinks is the connection; for, Dr. Scripture secretly cut the wires, and he could still, by manipulating the switch in the sight of the stammerer at the transmitter, cause the intermittence of impediment and fluency. Dr. Blanton expresses his disbelief in these alleged causes of stammering by the following question. "If brain congestion or defective auditory imaginery or malocclusion of the arch or infected tonsils were the primary cause of stuttering, rather than results or merely accompanying disorders, what part is played by the movement of the hand of a second person in the connecting of the telephone? He might have asked "What part is played by the mere thought that connection is made? Malocclusion is a structural difficulty. May anatomical structure be reversed at will by reversal of thought? Now, paraphrase Dr. Blanton's question. If motor weakness were the primary cause of stammering, what part is played by the movement of the hand of a second person in the connecting of a telephone? May the motor weakness be removed and returned by throwing a telephone switch down and up?

The main questions seem to be answered: the Bluemel and Blanton alleged causes of stammering are "little more than a confusion of personal opinions and theories." Now for the clarification.

Liebmann's Views Enlightening

Early in this article was mentioned the death warrant of stammering that appeared in 1914. It was signed by Dr. Albert Liebmann, of Berlin, Germany. It contains few words. It is "If he" (the stammerer) "has to speak, he becomes excited and makes voluntary efforts intended to bring out the sound but which actually obstruct it." From this we can build up the whole structure of stammering. Take the case of a surgical patient recovering from the ether. The normal speech mechanism is not sufficiently recovered to express a wish—for a drink of water possibly. A voluntary effort to talk is made. This effort is misdirected, because no one knows how he talks. The failure of this effort attracts humiliating attention and convinces the patient that his speech is affected. Thereupon he makes fresh efforts in order to overcome the imagined affection. He is again humiliated. The next time, he "tries" to talk more than ever; and more than ever impedes his speech. What he should do is to decline to talk when the fear of humiliation is on him. His normal speech would flow unimpeded if he refrained from the impeding efforts. But, he thinks that he "has" something, and the specialists confirm him in that thought. They supply him with brain lesions and innumerable deficiencies. No wonder, the poor stammerer is convinced that he is diseased and continues his impeding efforts in order to overcome the effect of the imaginary disease. His physician confirms him in his mistaken view and then labels him psychopathic because he has it.

Put this theory of stammering to the telephone test. When the stammerer thinks he is connected with an auditor, he fears that he will stammer—rather, he fears the humiliation which he will experience if he does stammer—so, he makes an "effort" to talk. The effort is misdirected. If you are a witness, you may see the misdirection yourself, or you may read of it in the books of the many authorities who describe it without realizing its significance. One form of misdirection is holding the mouth tightly shut. Just try that effort and see how you can talk. Or hold your breath and see how much you can talk. Or expel your breath and see how much you can talk. You will impede your speech in every case.

Oh, when will the investigators of stammering abandon the musty, dusty tomes of

superstition on the subject and just *look* at a stammerer! They can thereby acquire more knowledge in five minutes than fifty years of study would give them—indeed, by that study they will acquire little more than ignorance.

But, to return to our stammerer at the telephone. Fearful of appearing cheap—rather, of sounding ridiculous—to possibly a pretty telephone operator at the other end of the line, he makes all kinds of abortive speech efforts. However, when the receiver is disconnected, he has no such fear; he makes no impeding efforts, so his speech is not impeded. He has no fear of his tutor, for the latter has calmed his fear of him. Now, it makes no difference whether someone is actually listening on the line or not. Someone might be listening, but, if the stammerer thought otherwise, he would be fluent, because he would not make the impeding effort. Reversely, no one might be listening; yet, if the stammerer thought otherwise he would stammer gloriously.

Apply to the speech interference theory the test of origin by imitation. What is the process? *The stammerer voluntarily impedes his normal speech.* He continues the practice until he fears that he will "catch" the affliction. Then the voluntary efforts are directed by the panicky fear, and he thinks he can no longer discontinue them. Indeed, he seems to be unable to discontinue them when the fear possesses him. He may banish the fear by a distraction. (Notice him say "Ah" or "er" before a feared word) or he may wait until the fear vanishes, and then his normal speech operates. The imitation of stammering dialect does not—can not—cause motor weakness, impairment of brain cells, paresis, and all the other nonsense causes of stammering. But it can build up a fear of the consequences of speech difficulty, and that is just what it does. The speech interference theory is in perfect consonance with the origin by imitation and association; and no other theory is.

Deficiency Not Needed for Explanation

Apply to the speech interference theory the conditions that the stammerer need not be deficient structurally, organically or logically. Since the only requisites for stammering are, normal speech and a fear of speech difficulty, it is perfectly evident that structurally and organically the stammerer need not be deficient. It seems not to be so evident in regard to his logic. People say to me, "You admit he has a mistaken idea. Therefore, you admit either a psychosis or a neurosis." But, that argument is invalid. The ancients (most of them) thought that the sun revolved around the earth. Were they therefore crazy? Not at all; because their view was perfectly logical according to the light which they had. Now, the stammerer has had difficulty with his speech, and that difficulty brings him humiliation. His fear of further difficulty and consequent humiliation is perfectly warranted by his experience, and is therefore logical.

In the discussion of Dr. Blanton's paper, two participants, Dr. Swift and Dr. Neustaedter, brought up the question of the stammerer's well-known ability to sing, Dr. Swift showing that this ability is contrary to the motor weakness view, and Dr. Neustaedter saying, "I would like to have Dr. Blanton explain how it is that stammering stops while singing." The abstract of the discussion omits the explanation if Dr. Blanton gave it. However, as Dr. Swift showed, no valid explanation under the motor-weakness theory seems possible.

No Stammering When Singing

What then is the explanation? It is this. As has already been shown, the continuing cause of stammering is, fear of the consequences of it. When that fear is out of mind, the stammering is out of speech. So, we must seek the conditions which keep the fear out of mind during singing. In the first place, singing is generally in concert, both in the learning and in the exercise of it; and stammering is absent in concert vocalization, because the stammerer knows that his voice will not be missed if he fails. Lacking the fear of failure, he does not make the misdirected efforts which cause the failure. In consequence of his success in singing, he becomes convinced of his ability to sing; so he does not make the impeding efforts even when he sings alone. Also, other conditions contribute to his fluency in singing. The manner of speaking designated as "accented vowel"—or "slighted consonant"—facilitates the stammerer's fluency. We know this from the extensive use of this manner of speaking as a "cure." It is sometimes called "the drawl," and, in connection with measure, is sometimes called the Denhardt method, although it appears to be as old as the hills. The considerable elimination of the consonants reduces the stammerer's opportunity for interference with them, and the measure provides a distraction which obviates the impeding efforts. Indeed, the time-beat is probably the commonest means of producing the temporary fluency which is universally represented as "permanent cure."

What has already been said ought to be sufficient to show that the structural, organic, and

functional theories of stammering are invalid; and that the speech interference theory is fully valid. The disease theories—all deficiency theories—deny incontrovertible phenomena of stammering; therefore, those theories must be discarded: the speech interference theory embraces all the verified phenomena of stammering, therefore, it must be accepted. In short, Fletcher was right: the confusion and mistaken practice is a nuisance to the human race and a terrible discredit to the medical profession.

The Physician's Duty

Two prospects face physicians in this connection. The first is, that this confusion and mistaken practice be stopped by definite action. There are many ways of doing this. The American Medical Association could assemble the speech specialists to a face-to-face conference, apply to their theories such tests as have been here applied, convince each mistaken one of his mistakes, and ask him to desist from the further assertion that fiction is truth, and from further empiricism in his treatment of stammerers. Or, the medical editors could print a little slip for use with every contribution on the theory of stammering which needed it. This slip would run something like this, "We thank you for your contribution, but notice that you fail to reconcile your theory with the origins of stammering by association and imitation and with its characteristic of intermittence, particularly in singing and solitude. Will you kindly so reconcile it, since it is necessary for a theory to conform to the facts on which it is based. If you can meet the requirements in regard to these salient facts of stammering, we may be disposed to publish your article." Or, some philanthropic agency, desirous of doing a much-needed public service, might open a department which would disseminate truth about stammering and discourage untruth in that regard.

The alternative course open to the medical profession is, *laissez-faire*. The future of that course is clearly indicated by the past, and it is not agreeable to contemplate. Indeed, it is a present state—the future will be an aggravation of it. The determining factors are: (1) The truth is coming out, and (2) the error is opposing it. The involved forces are powerful: on the first side, invincibility; on the other side, practically all organized effort in the field of stammering. It is a war that is bringing out into public contemplation one of the scandals of the medical profession. Not the biggest scandal; for, stammering is a comparatively small field. But, a Simon-pure scandal, from the butchery of Diffenbach to the frauds of medical men whose names are now respected.

Would it not be better to heed the sage advice of Fletcher, given five years ago, and draw a curtain over the whole mess? The efficient and creditable way of doing that is, not only to cease from further mistakes, but to extirpate stammering by educating parents and teachers to eliminate the avoidable causes and to prohibit the convulsive efforts before the fear of speech difficulty has developed to an extent almost uncontrollable under modern social conditions.

A Treatment for Diabetes Mellitus

With Certain of the Rare Elements

By ROBERT FRANCIS McDONALD, M. D., Brooklyn, New York

Associate Member Brooklyn Diagnostic Institute

EDITORIAL COMMENT.—Like several other affections that formerly were viewed as clinical entities, diabetes mellitus now is understood as symptomatic of an underlying condition—at least insofar as the most manifest clinical evidence, namely the loss of sugar in the urine, is concerned. Remedial agents tending merely to control the elimination of sugar can not be considered as actual curatives. However, if the root of the evil can be reached and thus the perverted body chemistry is corrected, an actual causal treatment for diabetes may become available. In his article which follows, Doctor McDonald expresses the opinion that he has found such a method of treatment that goes to the root of the matter.

I FULLY AGREE with the statement of Oefele that diabetes is only a symptom, that different anatomical changes are able to produce the loss of sugar and that a physician has to make an anatomically expressed diagnosis so as to outline his basic treatment in each individual case. However, the latter is very often difficult to do and the loss of sugar constitutes, in many cases, a serious condition which in itself calls for active treatment. For the weak, undernourished diabetic, we must prescribe the use of carbohydrates and it is absolutely essential to see that these carbohydrates are utilized to the greatest degree. It

is with the latter phase of the disease that I particularly intend to deal in this paper, mentioning several different types of cases.

The healthy person eats carbohydrates, mixes them with the saliva and changes them into achroodextrin in the stomach. The majority of the carbohydrates pass through the pylorus in this chemical state. In the duodenum, these achroodextrins are mixed with the products of the pancreatic juice, are further digested, absorbed at the proper time and used as sources of muscular energy by oxidation into carbon dioxide. Pancreatic juice is a very important factor in the normal digestion of carbohydrates. The test tube shows that undiluted pancreatic juice acts very slowly in the final stages of the splitting of carbohydrates into sugar; whereas, with diluted pancreatic juice, the above-mentioned final stages of digestion are much hurried. I consider this of great importance and will attempt to bring this out in the following.

First of all, these findings would compare clinically with the impaired pancreatic digestion of diabetics with a premature sugar production. Again, we have, very often, a diseased pancreas or a diminished or altered pancreatic function due to the influence of neighboring organs that are diseased. The pancreatic juice in diabetics contains a smaller amount of specific enzymes than that of healthy people and its action would be the same as diluted pancreatic juice. On the other hand, the concentrated pancreatic juice of the healthy person safely prevents this untimely acceleration of sugar formation with its subsequent loss through the urine.

The results obtained by the use of the rare elements mentioned in this paper have been checked up not only by uranalysis and general improvement of the patient but also by fractional analysis by means of the duodenal tube.

Two-fold Treatment Outlined

The treatment comes under two general headings:

1. Treatment of organic defects, such as diseased pancreas, pancreatic calculi, etc.
2. Direct control of sugar loss by means of columbium, titanium and uranium.

1. Pancreatic involvements are best handled by deep massage, Bergonie faradazation, removal of calculi, buttermilk on empty stomach in morning, use of organotherapy in selected cases, etc.

2. The pathological inferiority of the pancreatic juice of diabetics, which has been proven by me to cause this acceleration of sugar formation, is overcome by a combination of columbium, titanium and uranium. This retards pancreatic digestion in a manner similar to a normally functioning organ. The elements mentioned are not new but the combination is, and I might say that possibly the interpretation of their therapeutical effect is new to some of my readers. Arsenic has been recommended at different times. Vanadium has somewhat the same effect as columbium. They all restrict the percentage of sugar lost, if properly used. But, on account of its ease in handling, and being less toxic, I select columbium and discard arsenic and vanadium. Titanium has been found in many of the principal European springs which have been used with success in the treatment of this disease. Uranium has been used for a quarter of a century.

Amount of Sugar in Urine Not Conclusive

The percentage of sugar commonly varies with every output of urine. The result of an analysis of any given specimen means nothing. The percentage of sugar may vary greatly in twenty-four hours. The above-mentioned combination has shown results uniformly in many cases and, I think, the reason is clearly stated. With this in mind, it is necessary to administer the elements in such a manner that the achroodextrins and the combination of the three elements pass together the intestinal tract.

In my cases, I have prescribed a diet rich in carbohydrates and, immediately after meals, given a tablet containing the mixture. In some cases, the sugar disappears entirely; in other cases, it becomes intermittent and in still others, it shows a steady low output.

Some Case Records

In closing, I would like to report several cases, each of a different type. The first is in a man of thirty, with all the characteristic symptoms (excessive thirst and hunger, extreme weakness). Cases at this age have a poor prognosis, as we all know. By means of the above-mentioned agents, with a liberal carbohydrate diet to the extent of giving sugar in solution with his medicine, his symptoms have vastly improved in three weeks and his sugar output dropped from 5 to 1 percent.

Case 2. Woman, 48, passing through climacteric, having hot flushes, etc. Allow liberal diet as above. Rare elements (as mentioned) given. In addition, polyglandular formula. In six weeks, no sugar present and all symptoms disappeared.

Case 3. Woman, 58, excessively fat, dia-

betes for six years with gradually failing eyesight from cataract formation. Had to guide herself by touching wall while walking through apartment. Much fermentation of food. Color somewhat cyanotic and pasty, sugar 5 percent. Besides rare elements, gave duodenal flushings with 10-percent alcohol solution (one liter). Between meals, extra doses of titanium solution. In three months, sugar 1 percent; digestion much improved; can read large sign across street. Color much improved; blood pressure dropped from 210 to 160 (systolic).

In the last case, I am inclined to attribute much of the result to the titanium by its effect on the calcium metabolism. Therefore, the therapy used in the last case is especially indicated in cases of more or less advanced age. In the combination of columbium, titanium and uranium, we have three elements of about equal chances of success in the treatment of diabetes and, since neither constituent interferes with the usefulness of the others and since the mutual assistance of the three may increase their efficiency, I do not see the advantage of experimenting with each separately. To the contrary, I believe there is every advantage to be gained by using them in combination.

Unfortunately, it is difficult to obtain in the open market a preparation of the rare elements which is sufficiently pure so as to obtain good results. Care must be used in selecting your products. Again, to my knowledge, this combination is the first of its kind to be used.

Remember, also, as I tried to bring out in my report of three cases, that each one has to be treated individually. All cases come under different types and must be so managed. It is also very important to remember that the control of the sugar loss is only one phase of my treatment and largely symptomatic, but no less important: especially when we keep in mind the peculiar psychology of the diabetic whose confidence is gained when he finds increased strength and diminished sugar loss, even though he is allowed to eat food that formerly he had learned to shun with fear.

Memoirs of the World War

By DR. GUSTAVUS M. BLECH, Chicago, Illinois

[*Continued from April Issue, page 265.*]

CHAPTER IV.

In School at Langres

Before leaving the Division headquarters at Moliens-au-bois, I had heard a good deal about the wonderful climate, the beauties and the peaceful calm of Langres. The residents of the city, made famous by the philosopher Diderot, were described as hospitable. The general-staff officer who told me all this had completed a course at the staff school and frankly said that he envied my opportunity.

The train from Paris pulled in at the station of Langres a little behind schedule, but early enough to give us a few hours before dark.

The town itself is remarkable in that it is built on a high hill top, to reach which one has the choice of climbing a very steep road or using a funicular railway. Military Police at the station telephoned the school authorities and, in about half an hour, automobiles and trucks arrived to receive us and our baggage.

There were fourteen military schools in Langres, most of which were located in military barracks. The Sanitary Field Service School, as well as the school for dental officers, were occupying two floors of a vacated college for girls. The rest of the building was occupied by a camp hospital.

We were informed that it was impossible to billet the student officers, and we would have to live in military barracks. I entered the room and found about forty officers arranging their cots. Outside of a bench for a washstand, there was no furniture—certainly no table at which to read and write. I asked for permission to secure a room at my expense and, this being granted, I engaged a room in a small hotel, the only large one having been filled with staff officers.

The Sanitary Field School at Langres

Later, I saw the town major and he secured for me a billet, a nice double room furnished with a large bed, wash stand, table, chairs, and even a lamp. The Government paid thirty francs per month. Anything above that price had to be made up by the billeted officer.

Under regulations, I was entitled to take an

orderly with me, but I did not take mine along. So, I engaged an elderly woman to clean up the room. This cost about four dollars per month.

When my baggage arrived, I unpacked my books and belongings and, for the first time since I left Brest, I felt that I could devote myself to the work in hand entirely and without interruption.

At the school, the clerk handed me a tentative program of the course. We were not only to undergo daily instruction in class, but there were scheduled trips to the great army laboratory at Dijon, to a famous hospital for war neuroses, and to the American front. In addition to the program, we received a large quantity of blue-prints, and mimeographed reports of addresses which had been delivered at previous sessions of the school.

The head of the school was Colonel Bailey K. Ashford, a man who had done much scientific work while stationed in Porto Rico, in addition to his practical work as a surgeon.

The secretary of the faculty was Lt. Col. R. C. McDonald, a comparatively young army officer, whom I had met on the Mexican Border.

Another member of the faculty was Major Thomas W. Burnett, a young officer who at first did not impress me as old enough to function as a teacher; but, after his first lecture, we knew that we had to deal with an experienced young man whose judgment was mature and trustworthy, and who knew how to utilize his experience as a regimental medical officer for the benefit of his audiences. Two full days were set aside for instruction in the gas school connected with the engineer school. When I saw that on the program I could not help but exclaim to a comrade: "Gas again!"

Truly, we had had so much of it that I began to believe that the army authorities had fallen in love with the subject. Imagine my surprise when I learned that not a small number of student officers—and they had been nearly a year in the service—had never heard a lecture on gas nor ever worn a gas mask.

Classes began at 9:00 a.m., but we had to assemble at 7:00 a.m. on the drill ground of a barrack for about half an hour's physical exercises and drill. This instruction was given by a reserve cavalry lieutenant with whom I came to a clash (due to a misunderstanding) the very first morning. I had made up my mind not to drill under him, come what may. The result was a demand for an explanation by the commandant. I gave it, and then followed a lecture on discipline, as if I had never heard of the thing before.

Inwardly trembling with rage, I was ready to reply that I was too dignified a man to be lectured to, and that my resignation was immediately available—but all this lasted but a few seconds. There was a war. I could not go home without having been entirely through it. When I was in command, I exacted unconditional obedience, I would not be a good soldier if I did not do as a subordinate what I had demanded from my own subordinates. So, I said nothing and returned to school. This incident had no bad results; for, some time after I had left the school, I received my certificate of graduation and was delighted to see that I had been given the highest rating.

In a way, the school for medical officers was not a school at all in the ordinary sense of the term. For purposes of comparison, I narrate the following incident. The very first evening I had moved into my billet, I went in search of some drawing materials. On the street, I met a regular-army officer who had been detailed to the staff college as a student some time ago. This officer had an enviable record as a tactician. I was, therefore, astonished to see him dejected. The color of his face was not normal and his eyes betrayed worry and fatigue.

I asked him about his health. He understood why I asked him that question, and he told me that the work at the school was exhausting. They were given all sorts of intricate war problems to work out. Every day was examination day. The work was new—in all the past years of training they never had anything like it. Woe to the officer who failed! His career as a staff officer was ended and he was indeed lucky to be retained in another branch of the service.

Officers of the line school told me a similar story, but their work could not compare with that of the staff school. It was evident to me that the Government was utilizing this war to develop a large number of officers with the best possible strategic qualifications! And, today, I recall that the regular-army officers at the staff school were in the minority and that the bulk of the students came from the National Guard and the Reserve. Many of these men graduated with honors.

And where are these men today? Those that I knew have been demobilized. If any, these are the officers that should have been offered regular-army commissions of adequate rank and retained in the service. But, now, that their services are no longer required, the War Department lets them go, presumably in

the hope that these men will not neglect their studies and will continue to keep abreast of the times so that they can, in a future contingency, again render valuable services.

I hope so, but I doubt it very much. When a man has to give up his entire time and devote his entire energy to his profession or business, the few hours left for recreation will scarcely be utilized in the intricate and difficult study of strategy and tactics.

The Sanitary School

Now, as regards the sanitary school. I have said that, in a sense, it was not a school at all. True, there were lectures and students; but, in reality, the institution was a clearing house of information on the latest advance in war surgery and hygiene. The subject of sanitary tactics was treated from a broad standpoint rather than in detail. The only practical instruction was in sketching, map reading and drill with the gas mask.

Sketching was done in the open country, the hilly terrain affording an excellent opportunity to draw contours, a subject which many of the student officers knew very little about. On this subject there were two written tests. Finally, each officer, before the conclusion of the course, had to write a thesis on one of eight or nine subjects.

I have already alluded to the faculty. The commandant, Colonel Ashford, was by far the most impressive lecturer of any I ever had the pleasure of hearing. Of imposing personality, he commanded speech to an extent to be able to fascinate his audience, no matter on what subject he spoke. Colonel McDonald was a fine practical teacher and Major Burnett gave valuable advice with reference to frontal activities, his lectures being delivered in an interesting, conversational style.

On the other hand, a young reserve officer of subaltern rank must be mentioned, who, despite his knowledge of the chemistry of gases, became a bore. His frequent reference to vulgarities and the use of a vernacular seldom heard outside of a saloon, by which he apparently hoped to gain popularity with the class, only served to prejudice many against him. He was not considered part of the faculty. On several occasions, we had the pleasure of hearing famous experts of our profession. I recollect such men as Crile, of Cleveland, who has won fame as one who had done a good deal of research work in surgery; Blake, of New York, who was at the head of a great military hospital in Paris; Young, of Baltimore, who has been called in consultation to see the President; Professor Finney, of Baltimore, who has enriched surgery by a new operation; Goldthwaite, of Boston, who gave us inspiring ideas about the training of soldiers with flat feet, and several others.

We heard not only lectures on scientific subjects, but the gentlemen who were at the head of professional departments gave us an insight in the organization of their work, which convinced me that, great as the rush had been, the really great men of our profession had the capacity to grasp entirely new problems of organization and solve them in spite of apparently insurmountable obstacles. Those were inspiring moments.

Occasionally, a man came to lecture to us on some particular class of war injuries and

spoiled his lecture by a poor beginning. I recollect one who began by telling us that, though he was an acknowledged specialist, he had to do all sorts of work and the honor of being in the army was so great that he would have been glad to scrub floors if that had been asked of him, and that we must do likewise.

No, doctor, that is not the way to arouse the patriotism of men of culture. I, for one, would refuse to scrub floors, for, that is exactly *not* what we joined the army for.

I could have told the specialist that, once, a senior quartermaster was five minutes late for a staff meeting. The chief of staff, who never minced words, asked him why he was late. His excuse was, that he had to go to several stores to purchase some chairs which were needed at headquarters.

"That is not work for a senior officer," the chief broke out in sharp rebuke, "that is work for the youngest officer; you are fretting away your valuable time with small things."

Special Researches

One morning, we were driven by ambulances to Dijon to visit the laboratory commanded by Colonel Seiler, one of the foremost bacteriologists of the army. We were given a talk on the organization of this institution. A large number of boxes were shown containing complete bacteriologic outfits. These were shipped to organizations at the front. The laboratory had just then concluded a series of painstaking experiments to determine the cause of trench fever, which were described for our information.

We found in the work rooms many workers who were investigating the character and true cause of wound infections; but I was fascinated to see two medical officers study wound shock on anesthetized cats. Here, then, was the headquarters for the manufacture of weapons with which to save lives—and all this was done to help destroy the German army!

I have not heard of Congress conferring medals on a small number of soldiers who allowed themselves to be bitten by lice and who suffered for days from trench fever. Through this heroic self-sacrifice, they were saving thousands and thousands of American soldiers and thereby contributed more to the success of our army than if they had rushed under the influence of excitement against machine-gun nests, for which act they would have received citations and war crosses.

On another occasion, we went to a base hospital entirely devoted to the care of patients who suffered from "shell shock." The hospital was established in huts built on free ground, a mile from a small village. For the sick officers, wards were arranged in a nearby chateau, a two story house located in a picturesque artificial park.

As is customary on such occasions, some members of the staff described the diverse nerve troubles due to concussion by high explosive shells. We were given an opportunity to see many patients. It is impossible adequately to describe the symptoms which were very pronounced in most men. These patients were aware of their condition and very anxious to get well and go back to their comrades at the front, but they had absolutely no control over their nerves; with the result that limbs were twitching, arms thrown out jerkily as if to ward off blows; others had tremors and could not walk without support.

The principal treatment was psychic in character. The men were placed at work in a shop under the supervision of specially trained women. In this shop, they did carpentry or made toys or some useful articles of tin or leather. Thus occupied, their minds were taken away from their impressions at the front and the arms and fingers became gradually controlled through the exercise.

A Visit to the Front

A visit to the front in the Toul sector did not bring out anything new to me. The class was divided into two groups, and each assigned to a division. While at the front, my group was quartered in a field hospital, which proved of particular interest to me, since that field hospital was too fixed and too well equipped for mobility.

One half of the hospital established on one side consisted of wooden huts, equipped as wards, store-rooms, a dining hall, officers' quarters, etc. The other half consisted of tents, huge, double-walled affairs of French make, with windows of isinglass, and equipped with regular hospital beds. It was at this hospital, about two miles from the trenches, that I began to realize that, in a stationary war at least, mobile field hospitals were neither practical nor useful. Had the hospital possessed an x-ray outfit and good equipment for operative work, all of which could have been easily obtained, it could have functioned as a small, advanced base hospital.

The hospital was in plain view from the German trenches. At first, it had been established a little farther to the rear behind a small natural park with large trees. One day, the German commander sent a note that the

hospital was located in the immediate vicinity of an ammunition dump, and that it was sure to be shelled or bombed if not removed. The hospital was moved out in the open in front of the park, a pole flying a Red Cross flag was erected and old bricks were so placed on the ground as to form an immense red cross. This was intended for aviators.

Before our very eyes we saw aerial duels. American aeroplanes were trying to blow up the sausage-shaped German observation balloons. I saw one of our machines winged and escape with a "limp." Artillery duels began as soon as it became dark, but we slept undisturbed the three nights we were there, though several batteries were posted only a short distance from the hospital.

We went up to the trenches. The Americans had dug themselves in on the western slope of a hill. Before reaching the trenches, we had to pass an open field. An irregular road or, rather, a trail leading across the field was dotted with small shell holes, the work of Germans shooting over the hill to prevent food and supplies reaching the cave dwellers. More than one man pushing a cart over one of these trails, under cover of darkness, had to abandon the cart and run for safety, the artillery missiles becoming too thick over the route.

Three quarters of a mile in the rear of the trenches was a defense system of barbed wire entanglements and some underground shelter for aid stations, guards, etc.

A comrade and I, with sticks in hand, were walking along the slippery foot paths to inspect the system. Over our heads high up a Yank was chasing a German; the rattle of shrapnel balls coming down through the trees was almost uncomfortable, and we hesitated whether or not to seek shelter. I heard a cracking noise in my immediate vicinity and began to look for a missile on the ground. In glancing at my comrade, I saw something shiny on his stick. Closer examination revealed that the ball had struck the stick, a portion of the missile being imbedded in the fresh wood. From that moment, the stick was not for sale.

After our three day sojourn at the front, we visited several hospitals in Toul, and then returned to the school to complete our theoretic work, and to prepare our theses. Great plans had been made to visit Chateau Thierry; but, just then, a ferocious storm was raging there—all ambulances had been requisitioned for the now famous battlefield; the authorities at Chateau Thierry had a pressing engagement with the Kaiser's cohorts, and, therefore, politely but firmly declined the honor of our visit. So, at the eleventh hour, the plan was changed, and we went to Paris instead. Our stay was to last three days only. We spent some time in Colonel Blake's hospital. There was a large number of fracture cases available for study.

In Paris Hosptials

One afternoon we spent in a French hospital in a college building, presided over by Dr. Chutro, a South American, who spoke French and Spanish fluently and had a fairly good command of English. Of interest in his hospital was the method of moving joints, no matter how badly shattered they were, twice every day. This treatment would appear almost brutal and the patients screamed from pain during the performance; but, oh! for the brilliant results! Joints that would have been condemned to be stiff for the rest of life remained functioning normally.

A visit that will remain forever an unforgettable one was to the famous military hospital and military medical school—Val-de-Grace. In an ancient building surrounding a court yard, are stored priceless treasures in which every one interested in war relief can find material enough to study for months. We could only glance at the most important equipment. A huge hall contains every known medico-military appliance, either in the original or as a model—ambulances, vehicles for the transportation of wounded, litters, splints, surgical appliances, charts, photographs and diagrams too numerous even to be mentioned by title. In the anatomic museum, of greatest interest was a large number of transparencies showing the end results of the surgical operations for extensive gunshot wounds of the face and jaws, work that has been developed during this war. A large room was almost completely occupied by a model of a large modern base hospital.

After this visit, we were permitted to inspect the chapel, in the basement of which are said to rest the bones of an eminent French surgeon. I went down to see the small sarcophag, read the plate and ascended again.

Some colleagues expressed their admiration of Val-de-Grace, in most enthusiastic terms. I asked one of them whether he had ever seen the Army Medical Museum at Washington. "No," he replied ironically, "have we there anything like it?"

"Not at all, there is no comparison; but, if you decide to go and see it, I would suggest that you spend there at least a month. After

that you will have more respect for your profession at home."

The last day it was left to us to go either to a hospital in Versailles in which nothing but burns were treated, or to a hospital for nervous diseases. I chose the former, being more interested in the class of cases I could see there.

Our little group was received with great courtesy. None of the staff spoke English, and I acted as spokesman and interpreter. We saw an unusually large class of burns. One patient, an aviator, attracted particular attention; a gasoline explosion having struck him in the face and destroyed the entire skin, so that the little eyes seemed to be set in an irregularly shaped mass of raw flesh.

They dressed the patient for us with "ambrine," a preparation which I had employed in the United States for some time. While there was nothing original in the treatment, we had an opportunity to see astonishing results in apparently hopeless cases. Of special interest was the way the surgeons got rid of scars by injecting a mixture of creosote and oil with a hypodermic syringe.

The chief surgeon gave me a reprint and some photographs of patients. Before leaving, I expressed for the officers our sincere appreciation of the courtesies shown us, to which the chief surgeon made a warm reply.

Our course had come to an end. Armed with our travel orders, we went to the office of the Provost Marshal, checked out, and each of us returned to his respective station.

[*To be Continued*]

The Fatal Ray

By MILES J. BREUER, M. A., M. D., Lincoln, Nebraska

EDITORIAL COMMENT.—A few years ago, in 1916 to be exact, we published a serial article entitled "A Medical Utopia," by Dr. Edward N. Reed, of Santa Monica, California. In this article, the medicine of the future (which is not the same as "futurist medicine") was discussed as Doctor Reed conceived it to be developed.

In an article by Doctor Breuer, of which we are happy to present herewith the first instalment, medicine, one hundred and fifty years from now, is described, as is also the state of society, the government, and many other things of the future.

Dreams like those described by Doctor Reed and by Doctor Breuer are, of course, nothing new. Who does not remember Bulwer Lytton's "The Coming Race," Bellamy's "Looking Backward" and numerous other similar writings! It is fascinating to look ahead—far ahead, and to imagine how things are going to be. Doctor Breuer's imaginings can by no means be designated as phantasmagoria. His descriptions of things to be are based logically on things that are now. We should like to be able to come back in a few hundred years and see just how things will have developed then.

"YOU CAN TRY it on me first," I had said to the doctor, little dreaming that, in a week, he would actually be doing so. The smooth-mannered salesman with the new anesthetic had spoken with scientific reserve; but the description he gave of his product and its properties, and the clippings and reprints he showed me from recognized journals, made me feel that we could not afford to miss this opportunity. I would have liked to bring the matter to Dr. Penrose's attention, as he had the authority to purchase supplies for the hospital. But, the doctor was out of the city, and the salesman stated that he was leaving Lincoln that evening. I therefore assumed the authority to purchase a few cans.

A week elapsed, during which the new anesthetic was in my mind a good deal. I studied its literature carefully. As a nitryl hydrocarbon derivative, it would seem to be virtually a liquid nitrous oxide; produced no nausea, carried no danger of cardiac or respiratory depression, and was dissipated in a few moments after cessation of administration. During that week, several cases were operated on, but on none of them could I bring myself to try it. Then, when I infected my middle finger during a pus dressing, and it became necessary to open it under an anesthetic, I was eager to have the new stuff tried out on me. I marched to the operating room, my arm in a sling, the pain from my finger throbbing through me like the strokes of a big engine; and I felt as though I were conferring a great benefit on humanity.

(Some to whom I have told this story have been under the impression that I was relating a wild dream due to the influence of an unknown narcotic. But, when I showed them the pink line around the middle of my right thigh, and the difference in size and pigmentation of my two feet, they remained silent. "We haven't discovered everything there is to be

known, yet," said Dr. Penrose, when commenting upon my story.)

Only after I had taken the first few breaths of the sweetish vapor, which tingled in my lungs, did I begin to feel misgivings for having submitted to a thing so uncertain. "If I never get out of this," I thought, "it is my own fault." But, I seemed to slide down out of consciousness so rapidly that I forgot it in a moment and continued to breathe deeply in happy content. The last thing I remember was, a vast, open, bluish, airy space, and an intense ringing in my ears.

2. The Awakening

When I opened my eyes, I was not in the operating room. That was not astonishing, and I closed them again and lay a long time, resting comfortably. I lay on something so soft that I seemed to float. The next time I looked (and my eyelids were very heavy), I seemed to be in a vast hall with walls of marble or some similar translucent thing, pervaded by a soft twilight. My pleasant lassitude, in which I moved nothing but my eyes, lasted many minutes, during which time I observed over me a slender framework, and thin glass plates in it, which covered me like a great showcase. On an upright rod near my feet, were a number of instruments, dials, a kymograph writing curves in red and blue, and thermometer-like scales. I lifted my head to see them better, and it was tremendously heavy. There was a faint "clickety-click" among the instruments on the rod and, from the distance, a gray-clad woman sped toward me.

She seemed very much excited as she stopped outside the glass and looked at me. I laughed. I do not know what possessed me to laugh, but I felt the desire irrepressibly. I was so weak that I produced only a thin cackle. This only served to increase the excitement of the woman —or, rather, girl; for, she was young and fresh looking, with classically regular features and a translucent complexion; indeed, she looked very pretty to my eyes. She reached down and pulled up a cord from the floor, and I felt a fresh, warm current of air on me.

She was dressed like a nurse, though the cut of her clothes was different from any I had ever seen. But, when I saw how the men were dressed, I forgot about her. One hurried in, a few moments after she arrived; he had on some gray, flabby stuff, a jacket with sleeves to the elbows, a white ruffled collar around his neck with a flower in the front of it, and a pair of trousers that seemed to end at the bottom in slippers. The other man looked like a neatly dressed monk. He appeared a few moments later in a flowing cloak of brown. He had gray hair and a kindly face.

"He's awake!" the nurse exclaimed. The men glanced at the instruments on the rod, and the brown man leaned toward me. The glass was gone; I was mystified as to what had become of it. Later I learned of the transparent membrane which contracted to a thick brown ribbon when one edge was released.

"How are you?" he said to me. I nodded my head; I did not feel like talking. He nodded to the nurse, and she hurried away. I regretted to see her go, for she was pleasant to look at. The men fell to talking rapidly; at first I thought it was a foreign language; then I found that I could distinguish most of the words as English, but I could not catch the drift of what they were saying. While they were talking, I fell asleep again.

When I awoke, I was in a little green room, on a gray metal bed. Over my head were several rows of bright copper rings, as big as platters, strung on rods. The nurse in gray stood over me and, as I opened my eyes, the rushing drone among the copper rings died down, and she swung them sidewise away from the bed. My mind was clear, and I felt strong. I sat up and looked myself over. I was woefully thin; the gray pajamas hung over me as though I were a broomstick frame. My infected finger was not painful and, looking at it, I saw that it was healed, with a pink linear scar over the palmar surface. As I was ruefully contemplating my shrunken condition, the man in the brown cloak entered. The cloak had a rich, silky luster.

"What has happened to me?" I asked. My voice worked very well.

"You're doing excellently," he replied, looking over some indicator dials at the head of the bed. "We've put eighteen kilos on you in the last three days." I remained silent; I was tremendously puzzled.

"Let us see if you can stand up," he suggested, biting the words off crisply. I stood up and walked without any trouble.

"Three days!" I exclaimed. "Have I slept that long?" The nurse looked at me, smiled to herself, and slipped out of the room.

"I know you are puzzled," said the man in the brown cloak. "We have been feeding you intravenously while you slept, and you have gained eighteen kilograms in weight. We have been trying the dynabole on you,"—indicating with his hand the copper rings and the cabinet from which they swung—"rather a new thing, but seems to be giving good results. Replaces that portion of the food required by the human

body to produce kinetic energy. The human body, placed in its field of force, absorbs energy directly, without the medium of digestion and assimilation. Three days ago, you couldn't lift a finger. If we ever come to use it extensively, all the food we will require will be to replace tissue waste. A couple of meals a week. "But"—he changed his tone—"I have an unfair advantage over you. Let me introduce myself. I am Dr. Deland, Head of the First Hospital, Lancaster County."

"Dr. Deland," I replied formally, "I am glad to know you. My name—"

"We know you very well, Dr. Atwood. In fact, I think we can tell you a good deal about yourself that you do not know. But first, put on some clothes." He nodded toward a folded pile and, noting my puzzled regard, helped me put them on. There was a baggy pair of trousers ending below in a pair of comfortable shoes, and a blouse with a ruffled collar. They were tough in texture, but thin and light as paper; they hung loosely in silky folds that were cunningly worked into the cut of the garment.

"Are you prepared for a severe shock?" he then said. His kindly old countenance was so serious that I became alarmed. I reflected. I had no parents, no sweetheart; I had committed no crime. What could have happened.

"Let her rip," I said; "now that my finger is healed, my nerves are good."

He smiled.

"I know about your finger," he said. "It healed a hundred and fifty-four years ago. You have slept from the effects of nitryl-cylene for over a century and a half." He pronounced it impressively. I felt a little sorry for disappointing him. It was not a severe shock. The first idea that occurred to me was trifling.

"What became of the fellow who sold me the stuff?" I asked. "Had anybody else slept this long on it?"

"Our records are pretty good on your case. He was sought, but never found. There were no other cases like yours. Nitryl-cylene has been known to science for only forty years. It was apparently made by accident in your day, and then forgotten for a hundred years. But, I do not seem to have impressed you. Come, I can do so now."

3. A New World

He led me down thirty yards of green corridor, up a silent automatic elevator, and to the end of a short gray passage. As he opened the door, a rushing roar rolled into the peace about us. The wall of the building was two feet thick; the door opened on a balcony and, through it, I could see brilliant masses of buildings, tall towers, and huge shapes moving majestically high in the air.

"Behold Lincoln of 2075!" said Dr. Deland.

I stepped out hesitatingly. It struck me suddenly, hard, like a huge flood of water, the magnificence, the glory, the teeming activity of it. I grasped the rail for support; for it made me feel weak.

"Lincoln!" I gasped.

We were on the roof of the hospital, on the south side of a little towerlike structure, and about there hundred feet above the street. Two hundred feet away were the roofs of the buildings on the opposite side; great, graceful structures of a bright, glassy material. The one just opposite had a dozen huge white columns in a row, and, farther down, a greenish, translucent edifice was a wonder of great interlacing arches. Hundreds of enormous buildings of different degrees of gleaming translucence, in tints of pink, blue, green, and gray, were spread before us, with domes, porticoes, huge statues, and graceful little towers. All of them harmonized in size, style, and tint. I noticed also that each building became narrower from its foundations upward, with a tendency toward a pyramidal shape, so that, above, there was more room among the buildings than on the ground, with the result that the streets were well lighted. Away to the north, there was a general decrease in size, while, to the south and east, they grew higher and more splendid, until in the distance, apparently the center, they were surmounted by a huge, bright shaft, towering into the heavens high above the rest. That tower—I had never seen it, but I recognized it, and it made my heart glad. It was the new capitol building.

There were huge things in the air, great fishlike affairs, which rose, circled, and moved away; and countless little darting ones, scurrying hither and thither, up and down; and a deep droning hum, not unpleasant to listen to, came from all of them. The rush of traffic came up from below, and I moved closer to the railing to look down. Again I clutched the rail in astonishment.

The street looked like a river, crowded with people in light tints of various colors, and very few in dark shades. Streams of them poured swiftly into the distance. At first it puzzled me, and then, in a moment, I understood. The street itself moved in longitudinal sections, each half in an opposite direction, at slow speed near the edges, while the middle sections, which were also the highest, moved so swiftly that they seemed a continuous

stream of changing and blending tint. Next to the buildings was a stationary strip, on which people walked, gathered in groups, and sprinkled into and out of the buildings. I let my eyes follow one man in pale orange as he came out of a doorway, crossed the stationary walk, stepped on the moving section, and moved slowly eastward; then he stepped from one section to the next, each time moving more swiftly, until I lost him in the distance, whirling away on the middle section.

"Where is the traffic?" I asked; I see only people on foot."

"Below," he said; "the street is two-storied here."

My next question was a perfectly natural one, one that would occur to nine out of ten Lincolnites finding themselves in my situation.

"What is the present population of Lincoln?"

He looked at me a moment.

"Oh, yes," he said, and paused again. "Very few of these people live here; not one in a hundred. Lincoln is a shopping district, educational center and, to some extent, an industrial township. Cities are not what they were a hundred years ago; modern transportation has altered that. People live scattered all over the country, along the roads. Some of them come fifty kilometers to their work every day, and five hundred kilometers to do their shopping. The country is probably a little more thickly settled than it was in your day, but there has not been any tremendous increase in population."

Then my first misgivings struck me. The awful gulf of years did not bother me much; it was the fact that I was alone in this terribly complex world, ignorant as their veriest simpleton of common every-day matters. How was I going to find my place in it? I had felt homesick before, but this was worse. I wished I had kicked the salesman and his anesthetic down the stairs. Poor fellow; he had long ago mouldered into dust.

My discouragement was not relieved when, at the doctor's request, I accompanied him to several rooms where patients under his care were undergoing functional tests.

"I have long known," he said to me, "that, if you awoke during my lifetime, it would be my pleasure to explain things to you. So I have posted myself on the history of your day, that I might have a little of your viewpoint, medical and otherwise. You will not find that knowledge common; the study of history is not a popular one."

I am quoting his side of these conversations from memory and using my own words. The way he clipped his words, and occasionally introduced one I didn't understand, made it an effort for me to listen, although I noted that he spoke carefully for my benefit.

"I was considered pretty well trained in my day," I said glumly, "but I see that I am no good as a doctor around here." We had just been in a room where a man lay on a bed, with rubber pads strapped to his wrists and neck and hoses running to a little cart-like stand of apparatus; from the latter proceeded the measured striking of a mellow gong, and a rainbow-colored globe rotated at the top; a nurse watched two dials and put down figures. The doctor's explanation was about as follows.

Futurist Diagnosis

"The doctors of your day made most of their diagnoses very laboriously by means of symptoms and on the basis of necropathology. We observe pathology directly in the living body, anatomical, functional, and psychic. It takes less brain-racking, and more machinery to make a diagnosis nowadays. This machine is the Barkeley Intonator, and the patient is having his proprioceptive index examined. Headache. I think we have more headache than there used to be in your day. Had high blood pressure and low affect reflex; probably a case of metadynesis, in which case the proprioceptive index will be greater than 100." About there, I lost the drift of his words, and can not reproduce them and further. About the best that I could make of it was, that it somehow showed the relation between the nervous system and the circulation, and that the case was one that I might have classified as hypertension, or arteriosclerosis.

I saw others; I saw an electrical machine writing on a tape a curve of the efficiency of a patient's heart and kidneys; I saw an apparatus recording in a jagged line the workings of a diseased cerebellum; I saw a man in a darkened room on a delicately balanced instrument that hung from the ceiling, and brilliant beams of light cut the darkness about him; he was being tested for his "index of suggestibility". Finally, the doctor took me back to my room, and put me back to bed. Indeed, I felt that I had had enough for one day.

The nurse looked in the door, craned her neck to look at me, and then came in.

"Do you find the world so much worse today than it was when you went to sleep?" she asked. "You do indeed look unhappy."

"The world is wonderful," I said, a little surprised, but feeling better already. "It is

myself that I am worrying about. This whirling, complicated age is no place for me."

She smiled. I noticed that her eyes were brown.

"You are lonesome," she said kindly. "I knew you would be. The doctors never thought of that. They've thought of everything else. But, just think. They have been waiting for generations for you to wake up. They will take care of you well. You will have a jingle time." That is one of the pleasant little slang words that I remember. And I marvelled why I should suddenly feel so hopeful and cheerful.

"Before you go," I said, as she turned out of the door, "tell me your name."

"My name is Elite Williams. I'll see you in the morning. If you need anything, push the blue button."

"I'm liable to need some more encouragement," I replied, but she was gone.

I did not recognize the ingredients of the supper that was brought to me, but its taste was very pleasing. During my subsequent meals, it was only rarely that I was able to tell what I was eating; there were various pleasantly colored and flavored cakes and gruels, and gelatinous dishes, and many fluid and semi-fluid ingredients. The next morning, Miss Williams, who was attending to some apparatus in the room while I breakfasted, cheerfully informed me that I could have my breakfast intravenously if I preferred. That method was extensively used in sickness and, as a matter of rapidity or convenience, by many well persons. However, most persons still preferred to eat.

Dr. Deland asked me to come to his office that morning, and Miss Williams showed me the way. The doctor was talking to a man in a pale violet cloak, and introduced me.

"Mr. Shepard," he said. "Mr. Shepard makes aeroplanes." He turned to Mr. Shepard, as a nurse came in. "Now, if you will go with the nurse, we'll do it for you in an hour, and you can be back at your office Monday morning." As they went out, he said to me:

"This afternoon I shall take you home with me, and you can spend the Sunday with us tomorrow. I have a couple of little jobs in the operating room now; come and watch me; and, when we are through, we'll go."

Rapid Recovery From Operations

I anticipated the operating room with a good deal of curiosity, and found that I was justified. It was very large and gray, with many pieces of apparatus arranged around the sides, reminding me vaguely of x-ray machinery. However, the operating table in the middle looked familiar, as also did the preparations of the surgeon and the nurses. When the patient was brought in, I recognized Mr. Shepard.

"Appendix!" said Dr. Deland, in his snappy manner. "Must come out."

"But—" I stammered, "you told him that he would be back in his office Monday. This is Saturday, isn't it?"

"Yes, he will be hard at work Monday morning. Let's see—in your day it took two weeks in bed, and a month of rest. Now, we first of all eliminate the shock by means of our anesthetic which has no after-effects of its own. It consists of a generalized nerve-block caused by means of a form of radiant energy, electrically produced, and known as Theta Violet 60. Then, we have various methods for accelerating wound healing. In this case, we will inject the tethechrome for deeper structures, and expose to Kowalski rays for the skin and fascia. You can stand by and watch it grow together. At this time tomorrow, healing will be complete."

In the meanwhile, a young man in gray wheeled up a Victrola-like piece of furniture, led little cables to the patient's chest and the soles of his feet, and then sat by with his hands on the knobs and his eyes on the indicators, some of the latter on the apparatus and others beside the patient's head. The operation proceeded very much like all appendectomies I had seen. Only, toward the end, they injected all the tissues with an intensely red substance, and the wound was sewed up very rapidly with a little apparatus that looked like a hair clipper. No elaborate dressings were put on the wound. It was covered with a sheet, and the patient was wheeled out.

"The next one," Dr. Deland told me, "is a little endoscopic examination. The lady has a little tumor in the liver, and we wish to ascertain whether it is a carcinoma or an abscess."

The endoscope is quite the most wonderful thing among my recollections of this adventure. It looked very much like a cystoscope, but was of about double the diameter, and much more complicated at the upper end. The lower end tapered into a scalpel-like blade; by manipulating knobs at the head, the blade could be withdrawn, and the lower end caused to expand into a transparent ball. So powerful was this expansion, that it opened against the strength of my clenched fist to the diameter of an inch.

[To be Continued]

Surgical Seminar

Conducted by Gustavus M. Blech, M. D.

[*Concluded from the April issue, p. 278.*]

Appendicitis.

I FIND myself in about the same embarrassing situation as the enthusiastic host who has invited his friends to a Lucullian feast and discovers that his larder contains only dry thistles. Running hurriedly to friendly neighbors for the purpose of borrowing some of the things necessary for a presentable spread, I find them to be in about the same situation.

Let us not be dazzled by mere figures. As I have already tried to explain, one may have done thousands of appendicectomies without a single death and his clinical experience may be absolutely worthless to the student. He may have been lucky or else he may have had mild cases—and these do not count.

The acute cases which, from the very beginning, present a serious toxic problem, perhaps a struggle of life and death between the toxins and the human body, are not so easily disposed of; for it is in this particular class of cases that the medical man confronts the all-important question: Shall we operate or shall we wait?

If an appendicectomy were the harmless affair that some surgeons would have us believe, this discussion would have no *raison d'être*. But all you have to do is to watch the death column of the *Journal of the American Medical Association* to see that many of our confrères die from the results of operations for appendicitis. One can not charge the unfortunate outcome to lack of skill, since no physician will be fool enough to select a mediocre operator for his own case.

Those of us who work in large hospitals know that many of the surgical deaths are due to appendicectomy. While some surgeons dispose of the entire problem with a mere shrug of the shoulders, implying that they have passed the kindergarten stage, I maintain that the problem is as unsettled as it was a quarter of a century ago, and while our present-day literature is filled up with gastro-duodenal problems, which just now seem to attract a good deal of interest, I have also seen a goodly number of shoulder-shruggers who, when they themselves are afflicted, resort to diets and drinks, to medicines and mummeries rather than to laparotomy, and this in cases unquestionably surgical in character—in others.

That appendicitis is a surgical disease, is so obvious that even internists will not raise a dissenting voice. The few practitioners I have encountered, some years ago, when I lived and worked among the poorer strata of society, who went about boasting that they never allow their patients to be operated on for appendicitis but cure every single case by non-operative measures, seem to disappear from our professional horizon. When I recall the long-frocked, loud-mouthed, tobacco-stained licensed quacks of some years ago, I come to the conclusion that either the higher and better education in our medical schools has crushed out of existence vulgar charlatanry, or else popular enlightenment has driven it into hidden corners. At any rate, the class of physicians we meet today—barring a few outcasts who are such by their own chosing—represents a body of men and women capable of honest thinking on scientific lines.

There is another matter. It is common knowledge that, the earlier the operation is performed after the occurrence of an acute attack of appendicitis, the better the chances for a cure. Accordingly, if a surgeon could operate on such cases within the first few hours, the results should be ideal. As a matter of fact, the time element per se is of comparatively small importance, and the published accounts of deaths show that many resulted from operations performed a few hours after the onset of the attacks.

True, in the last years, the mortality has been greatly reduced. But, there is a mortality still to be reckoned with and this in itself necessitates that every conscientious practitioner approach the problem with the earnestness demanded by its seriousness.

Let us assume for purpose of illustration that you have been called some time during the afternoon to see a young clerk. You learn that

he was suddenly stricken while in the store, about three p. m. the day before; that the principal symptoms were pain in the abdomen, vomiting and some prostration; that, after he had reached his home, his all-wise mother diagnosed ordinary colic and gave him a dose of castor oil and a hot water bag externally, but that to her surprise the bowels have not yet moved and he does not seem any better.

Nearly twenty-four hours have elapsed since the attack began and you proceed with the physical examination.

A glance at the patient's face and you realize that he is seriously ill.

Proceeding with the examination, you find the abdomen somewhat tense but not very painful to pressure. Tenderness at McBurney's point is more pronounced, but you do not make out a tumor, or mass, in the ileocecal region.

The pulse is 100; the temperature, 102.4° F.

There is no doubt about the diagnosis; that is to say, you become convinced that you are confronted with a clear-cut case of acute appendicitis. But, what does such a diagnosis mean?

The relatives press you: "Is an operation necessary?" "Will he get well?"

Of course, you can guard your reputation by high sounding generalities, you may assume an air of authority or else you may take the people in your confidence and tell them your doubts; or, better still, call for consultation, and thus divide responsibility. All this, however, has little to do with the purely scientific aspect of the trouble, and the original question still remains unsolved.

You can not even fall back on authorities. There are many who favor early operation. Dieulafoy, the great French internist, had this to say: *"Attendre pour opérer que l'appendicite se refroidit, c'est exposer le malade à la mort."* (To wait with an operation in appendicitis until the process has subsided is tantamount to exposing the patient to death.) On the other hand, you have any number of distinguished surgeons who teach the very opposite, demanding that the acuteness of the process be first allowed to run its violent course and to operate then only.

You know, of course, that countless thousands have been saved through a timely operation; but, as you study the literature, you also read of operations performed within twenty-four hours after the beginning of the attack which terminated fatally, and this at the hands of acknowledged master surgeons.

You stand therefore like a strategist surveying the hosts grappling in serious conflict, unable to predict which side will win. Will the germs succeed in destroying, or will the bodily defense succeed in warding off their brutal attack?

As you sit at the bedside without the facilities of a laboratory, you still have some means of prognostication. First, the ***facial expression***. True, it is not absolutely reliable, insofar as one is apt to be lulled into a feeling of false security when the expression does not betray threatening dissolution; still, an experienced man will see a good deal by a mere glance. I cannot, of course, describe the so-called abdominal face, since no description can adequately convey an idea of the expression characteristic of serious abdominal infection; but, in the course of years of observation, I have learned to rely a good deal on whether or not a patient is capable of responding to a pleasant remark or jest with a smile. I always have serious apprehensions when a smile can no longer be brought to a human face.

Next, you consider the *temperature* and the *pulse*. They must be considered in relation to each other to impart any information of importance. To me, the temperature per se is meaningless. If anything, I rather like to see a rise of a few degrees in any infectious trouble, since I interpret it to mean a defensive reaction on the part of the human economy. Children, under conditions of the character under discussion, show a relatively high temperature without it signifying anything very serious, unless there be present other evidence to the contrary.

Any acute case of appendicitis may show the stormy signs of high temperature and rapid pulse in the first two or even three days and the acuity of the process may subside so that the attack terminates, at least for a more or less prolonged period.

The medical profession has become habituated to look upon the number 120 as a sort of line of demarcation between safety and danger, as far as the prognostic value of the pulse is concerned. I accept that as a fairly good guide to follow, but not necessarily as one absolute in value. Patients having a pulse of over 130 have gotten well and patients with only a pulse of eighty or ninety have died from the results of abdominal infection. It all depends on the character of the pulse and the accompanying temperature.

I am inclined to maintain that experience supports these two rules as rather reliable:

(1) A rapid pulse and high temperature are not necessarily indicative of danger.

(2) A rapid pulse and sinking temperature

are always indicative of a very grave situation.

Now, while diagnostically the *white blood-cell count* is of no value whatever, it has a tremendous significance from a prognostic point of view and it is therefore essential that it be taken in all cases of acute appendicitis.

Let us pause long enough to see what this count amounts to.

Adults, normally, show six to ten thousand leucocytes in each cubic millimeter of blood. Children have a somewhat higher blood count. If the number of white blood cells in adults exceeds ten thousand per cubic millimeter of blood, we speak of a leucocytosis.

Leucocytosis, like temperature, is an expression of a reaction of the human economy to infection.

I have neither the time nor the ability to enter into a detailed discussion of an explanation of leucocytosis itself. As surgeons, we are not immediately or vitally interested in the nature or character of leucocytosis but rather in its clinical interpretation. The clearest conception of the prognostic value of leucocytosis will be had by regarding it as an index of the intensity of the infection and the reactive power of the body to the infection. Finally, one must remember that the peritoneum is probably the most sensitive tissue of the body; and, as the local infective process has its beginning and first progress in that tissue, we gain some information with regard to the extent and intensity of the peritonitis, taken, of course, together with other clinical findings.

When the clinical phenomena are so clear as to present to the diagnostician a clear-cut picture of the process going on in and about the appendix (peritoneum), the leucocyte count is undertaken as a matter of routine for purpose of corroboration. Whenever the general appearance of the patient, the pulse and temperature and the result of the palpation of the abdomen, augmented by digital examination per rectum, leave us prognostically in doubt, the leucocyte count assumes the role of an important adviser.

In the early stage of acute appendicitis, a leucocytosis of over 20,000 signifies an intense infection. All we know from that finding is, that the infection is serious. As regards the surgically all-important question of the presence of pus, the leucocyte count imparts no information.

The leucocytosis, which can be seen on the first and second days of the attack, continues one or two days and then, under certain conditions, either rises or declines. The latter means either a localization of the process or else a general, systemic, infection. Now, I hardly need dwell on the ability of telling which of the two has taken place through watching the patient as well as the counting chamber. If with the lowering of the leucocyte count the pulse, temperature, etc., improve correspondingly, we know that the infection is localized and that the prognosis is relatively good; if on the other hand the clinical phenomena increase as the leucocyte count decreases, we are facing a serious situation indeed.

Any operation undertaken at a time when the leucocyte count is low and the other clinical phenomena are severe, is fraught with great risk; on the other hand, an operation performed while the leucocyte count is high is prognostically rather favorable, no matter how severe the other clinical phenomena happen to be.

In the majority of hospitals, the nurses hand you a graphic chart as you visit your patient from day to day. That chart denotes in curves the progress and variations in pulse, temperature and respiration. In all acute abdominal conditions, and especially appendicitis, a curve of the leucocyte count should be added, not only as a matter of record but for rapid comparison. The printed charts now in vogue can be utilized by writing in red ink on the margin the figures 5,000, 10,000, 15,000 and so on by adding 5,000 for every division until 40,000 is reached. A line drawn in red ink or in some other agreed manner will show the leucocyte curve at once and as exactly as required, since, as can be seen from a study of any of the charts in the market, further subdivisions of the five thousand figure are possible.

Now, the question presents itself, what of the case under consideration? Let us assume that you have brought your pipette with you, that you make the necessary puncture, hurry with the blood to your office and find that your patient has a white blood count of, say, 14,000.

What is the significance? I confess that I do not know. If the count showed 20,000 or over, I should know what to think, but with a leucocyte count above 10,000 and below 20,000, the situation is not quite clear; and, taken all in all, I should about conclude that the appendix is infected without there being pus, that the peritoneum is not extensively involved and, lastly, that the patient has good reactive power to combat the infection. In other words, with a pulse of only one hundred, with a rise of temperature corresponding to the increase in

pulsations, with a fair facial expression and a leucocyte count below 20,000 and above 10,000 I should feel justified in pronouncing the case to present a favorable prognosis.

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Now as to the treatment.

It is not yet twenty-four hours since the attack has begun and, as the entire case does not seem of the type so aptly called *foudroyant*, (which I will briefly refer to later), an immediate operation promises prevention of further trouble and a permanent cure.

According to statistics, the mortality rate of acute cases operated on within twenty-four hours is not larger than that following appendicectomy performed in the free interval; namly, one percent.

I have not the time to verify the statistics, nor have you. Besides, statistics are not worth a penny as an excuse when a patient dies. It does not require a genius to figure out that it is much safer to operate during a free interval than during an acute attack. As a matter of fact, interval operations should have no mortality whatever; barring, of course, complications which we have as yet no means of preventing.

It takes a lot of courage to refuse to operate on a case such as we have before us. I am frank to say that, if I were the surgeon in the case, I should operate, provided that I had the necessary facilities for good work and for scientific after-care. Whether you should operate or wait, is a personal matter which you yourself must decide. If you are an experienced operator, capable of solving any surgical or pathological problem that may present itself without effort, I should say, operate! But, if you are not, I should say, better wait and watch.

Watchful waiting is an important method of treatment. Textbooks do not discuss it, but he who has sat through nights of watching, watching with an atmosphere of anxiety all around the sick chamber, knows how important this apparent do-nothing policy actually is.

Watchful waiting means, to have the patient in a place where surgical intervention can be carried out at moment's notice. It does not mean merely to order the application of an ice-bag to the abdomen and the total withholding of food and drink. It means that the progress of the case is watched several times daily and that includes a keen study of pulse, temperature and bloodcount. It further means laparotomy at the first appearance of a danger signal, with or without removal of the appendix.

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I want to emphasize the importance of the *after-care* of all laparotomized cases. In my opinion, proper postoperative care is as essential as good operative technic. I have seen a number of patients doing poorly in spite of the presence of high-priced special nurses and I have seen worse cases than the ones just alluded to do exceedingly well under ordinary floor-nursing care, the difference between the two being that, in the former, the surgeon gave a few general directions and left the rest to the nurse; while, in the latter, the surgeon prescribed every detail and saw to it that his orders were carried out.

There is no dearth of good books on the after care of patients operated on for any and all known surgical affections. Several medical publishers have brought out such books. I have none in my library, though, some years since, I glanced through a few for the purpose of writing critical reviews. I do not need such books. The beginner, however, should carefully peruse one or several books of this class, in order to facilitate his systematization of his work. After all, however, common sense and a knowledge of pathologic physiology, or (if that sounds better), physiologic pathology, are of greater value than a mass of printed information. Nor am I always in accord with what has been taught, at least, by several authors.

I have often been called a radical and what not; yet, I defy any one to produce a record of a single pneumonia death ascribable to ether narcosis. I defy any one to convict me of a falsehood when I boast that I have never lost a case of fecal fistula. Not that I have always been able to prevent either of these operative complications, but because we have known how to manage them even if they appeared despite our preventive preparations.

If the readers so desire, all you have to do is to address the Editor presiding over the destiny of this journal and simply force him to allow us to get together and have a talk-fest on the subject of this after-care. I am sure, you will not regret it because we all have a card or two up our sleeves, which we hold in reserve for the right time.

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I said something about the "foudroyant" cases. The word *foudroyant* is French and means "lightning." French medical writers use it to denote conditions which kill. The word is used in our medical literature in a

similar sense, only with the meaning of a conflagration rather than of lightning. I have never seen a reference of apoplexy being "foudroyant," but no end of allusions to foudroyant fevers, sepsis, etc.

There can be no doubt that there are cases of appendicitis when the toxins are so virulent as to kill within a few hours. In such cases, an operation would come too late even if it were performed an hour after the outbreak.

I have seen only one such case. A physician, whose name I can not give, because he is out of town and I can not obtain his consent, called me some years ago to operate on a young man whom he was sending to the Henrotin Hospital for immediate attention. I went there at once and, when I arrived, the patient had just been admitted and was taken up on a cart to the preparatory room. I went in to see him and recognized that the patient was dead. There was nothing to indicate that the patient had a peritonitis. His physician, who came to the hospital a few minutes later, told me that the patient had complained of sharp pains only three hours ago, and for the first time in his life, and that, half an hour later, when he saw him, the patient was drowsy, said he felt fine, while his pulse was 140 and the axillary temperature a little over 96° F.

I understand that a legal necroscopy was performed the next morning and that the peritoneum showed merely evidences of intense hyperemia. That is to say, there was no pus, fibrin or exudates of any kind. For all the appendix looked like, one not familiar with the circumstances might have diagnosed a mere catarrhal appendicitis.

The blood showed streptococci of a virulent type.

Much might be said about the socalled catarrhal forms, but we are not discussing problems which are fully explained in average textbooks. Of greater interest to us would be, a discussion of the differential diagnosis. For the present, we will omit that, with the reservation that at some later date cases will be published in one issue with the request that readers send in their diagnosis, to be discussed in this department. This method of practice will enable us to bring out the differential diagnosis between acute appendicitis, acute cholecystitis, perforated peptic ulcer and pancreatitis.

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[It is to be hoped that Doctor Blech's invitation to participate in a discussion will be responded to generally. In a "Seminar," the participants exchange opinions freely, and the professor merely guides the discussion and sums up the evidence. This department has great possibilities for good. It should not be left for Dr. Blech to fill it, month after month, without the interested cooperation of his readers.—Ed.]

Mother o' Mine

If I were hanged on the highest hill,
Mother o' mine,
I know whose love would follow me still,
Mother o' mine.

If I were drowned in the deepest sea,
Mother o' mine,
I know whose tears would come down to me,
Mother o' mine.

If I were damned of body and soul,
Mother o' mine,
I know whose tears would make me whole,
Mother o' mine.

—Rudyard Kipling.

The General Practitioner

Talks About Professional and Personal Problems

Conducted by WM. RITTENHOUSE, M. D.

Better Mail Service

WHAT I said on this subject in the March issue of this journal, was noticed by the post-office authorities, and I received from them a courteous letter thanking CLINICAL MEDICINE for the article and emphasizing the fact that, if the public will only follow certain rules in addressing mail, they—the public—will themselves be the chief gainers, not only in quicker service, but in reduced taxation; for, the costly Dead Letter Office could be abolished altogether. If every piece of mail bore the sender's name and address, there would be nothing for the Dead Letter Office to do. For quick service, the most important rule is, to have street and number in every address. No firm is so well known that railway mail clerks can always "throw" its mail correctly unless addressed to street and number. Of course, a letter addressed to "Marshall Field & Co., Chicago," will reach its destination, but even then not as quickly as it would if properly addressed.

Yearly Physical Examinations

I believe the time is ripe for trying to educate the public to the idea that it is economy for people after middle life, or even earlier, to have a thorough physical examination by their family physician, once a year, with special attention to the condition of the heart and kidneys.

Preventive medicine has come to stay and, while it cuts seriously into the income of the general practitioner, we do not complain. Still here is a way, and a perfectly legitimate one, to compensate us for the reduced amount of illness. When we persuade a patient to have an examination every year, we are doing him a kindness, for we may be saving his life. Many a person dies prematurely simply because a damaged heart, kidney or liver was not discovered in time.

Even the life insurance companies have found out that frequent examinations of policy-holders pay big, financially, in preventing death losses. The examination of the candidate for insurance is, of course, necessary; but, after the man is insured, it is to the interest of the company to keep him alive as long as possible, and not only alive but fit, so that he can pay premiums.

Let's go to it! The only question is, how best to get our patients thinking on the subject. How would this do for a suggestion? Put on our stationery brief sentences like these: "Prevention is better than cure. Have an examination once a year! Good investment! You will live longer!" Reader! perhaps you can suggest something better. Send in your ideas on the subject.

Respect for Law

In the nearly forty years that I have been a citizen of Chicago, there never has been a time when crime has been so bold, and disrespect for law so wide-spread as at the present time. And this condition of affairs is not limited to Chicago. All over the United States, the same deplorable condition exists, being worst in the large cities. Notorious criminals are brought to trial, but seldom convicted. To some extent, the cause lies in the system of court procedure. It seems as if it had been planned exclusively for the benefit of the criminal. Unprincipled lawyers in league with crime are able to defeat the ends of justice, and certain judges show by their decisions whom they regard as their masters. Most of the labor unions are run by men with a criminal record. This is not proof that laboring men are all, or even a majority of them, in sympathy with criminals. It merely means that criminals and grafters have got a strangle hold on the unions, and the decent members dare not vote against them under penalty of being slugged and probably killed. Politics is mixed up with these things, so that certain politicians get their main support from the lawbreaking classes and, in return, protect notorious criminals when the law attempts to punish them. There have quite recently been three or four trials of well-known criminals, that were such

absolute farces that it would have been laughable if it were not so serious.

This state of affairs can only be remedied by an awakened public sentiment. Every citizen has a duty in the matter. He must not only rouse himself to use his influence for law and order, but, what is still more important, he must endeavor to arouse the conscience of his fellow citizens. Every man has an influence with somebody, and no group of men has more of it than physicians. Of course, we can not expect that doctors will go out of their way to preach reform. They would perhaps do more harm than good if they did; however, a word in season and an intelligent use of the franchise will not be without effect. You and I, doctor, can help to make this country a better place to live in.

We may as well admit that, as Americans, we are too much inclined to look lightly upon infraction of law, and that we do not have sufficient respect for law as law. There are too many of us who make the mistake of thinking that, if a law does not meet our approval, we are at liberty to disobey it. That is exactly the criminal's attitude. If we disobey laws we do not like, why may not he do the same thing? That is just what is the trouble with the prohibition law. Men say it is creating disrespect for all law. But that is putting the cart before the horse. The men who break the law, already had disrespect for law as law. Prohibition gave them the opportunity to show their real attitude. We have a perfect right to work for the repeal of any law which we consider unjust; but, as long as it is in the statute books, we can not disobey it without losing our moral right to criticize *all* lawbreakers.

We are an Anglo-Saxon nation, although very much diluted with races that are not in sympathy with Anglo-Saxon ideals. Those races have no right to demand that we abandon our ideals to suit them. They are our guests, and the guest shows bad taste in attempting to dictate to his host. One of the strongest characteristics of the Anglo-Saxon race is its love of liberty, coupled with respect for law and order. We have the love of liberty, but too often fail to see that the only liberty worth having is that which has obedience to law for its foundation. Too many people spell liberty l-i-c-e-n-s-e. They think liberty is the privilege of walking over other people's rights.

Several years ago, I had an experience in the city of Winnipeg which has often given me food for reflection. I had spent the afternoon at the home of a friend and was on my way to my hotel, about six o'clock. I was passing through a part of the city where the working classes lived in neat little homes. I saw a small crowd a little distance ahead. On coming up, I found that a policeman had arrested a man who was doing his best to hurt the officer by kicking, biting, and scratching. The officer had not even drawn his club, but limited his activities to holding the man down and preventing him from inflicting injury. A minute or two after, a well-dressed business man came along, stopped and, on seeing the situation, asked: "Do you need any help, officer?" "No, thank you," replied the latter, "I can manage him." "Shall I call the wagon?" asked the citizen. "I have already called it, thank you," said the officer; and the business man went his way. A few minutes later, a bricklayer, with clothes spattered with mortar and carrying his tools, came along. He made the same offer of help, which the officer declined with the same thanks, and he passed on.

Try to imagine such an incident happening on the streets of Chicago! The very thought provokes a smile. The officer would be lucky if the crowd did not take his prisoner away from him.

The incident shows how thoroughly the respect for law as law is ingrained into the British character. Every citizen feels it a matter of duty, nay, of self-preservation, to uphold the arm of the law. I do not as a rule believe in drawing unfavorable comparisons between our own country and others. But, when we are suffering from the effects of a grave fault in our attitude towards so vital a matter, it will not hurt our pride to admit that we can learn from our neighbors.

Apropos of the frightful and utterly unnecessary slaughter and maiming of our citizens by reckless drivers of automobiles, it may be instructive to recall a couple of cases that occurred in the city of Toronto, last summer. In both cases, wealthy men driving, while intoxicated, caused a death in the one case, and a mangling of the victim for life in the other. The former got seven years in the penitentiary, the latter three years; and, that does not mean release in a little while by political pull. Seven years means seven years there.

Since the foregoing was written, the newspapers report how Detroit has cleaned up her automobile situation by simply enforcing the law and sending wealthy malefactors to jail.

Every other city can do the same as well as Toronto or Detroit.

We turn loose upon our streets by the thousand a machine that is more deadly than a locomotive, for the latter runs on rails and we can keep out of its way. We require the engineer of the locomotive to have years of training and experience before he is allowed to drive his machine: but, the automobile may be driven all over our streets by an adult who has perhaps had one lesson, or even none at all. It may be driven, and often is, by a half-grown boy or girl. Of course, we have a law about the matter, but who cares? In the words of one of Dickens' characters, "The law is an h'ass!" at least in this matter. So, we complain, and fume, and swear, and do—nothing!

Taking a Joke Seriously

In the March issue, page 206, on the subject of reading, I made use of these two sentences: "To read fast 'just to see how it is coming out' is fatal to good reading. Leave that to giddy girls who read novels while mother washes the dishes." A doctor's daughter writes to me, taking me to task for being unfair to the young people of today. Among other things, she says: "I think it is perfectly horrid of you to intimate that the young people of today are frivolous and do not take life seriously. Are they not as good as those of forty years ago?" Yes, my dear, I believe they are, on the whole; and I am sorry if, in rapping the frivolous ones, I seemed to imply that all were alike. While there are at all times some young people of both sexes who can only be adequately described by the expression "silly little fools," I sincerely believe that the proportion of intelligent, sensible, straight-thinking young people is as great today as at any time within my memory. My best ground for that belief, is the large number of young people that I have the honor of classing as my friends. I would be the last person in the world to belittle the fine qualities of these young people.

We often meet with that tendency in some people to take a joke seriously. Newspapers have for generations persisted in joking about mothers-in-law, and, in consequence, there are serious-minded people who look upon the whole class as marplots and mischief-makers. The truth is that, while there are a few of that kind, the majority are long suffering helpers in the homes where chance or choice has cast their lot.

Humorists and cartoonists wield a powerful and incisive weapon, and are not always careful where they hit. When they lay the lash on a class that needs it, "let the galled jade wince." But those who are not hit can afford to smile in the hope that the other kind may profit by the "show up."

Finally, may I suggest to my young friend that the expression "perfectly horrid" is hardly elegant English, and is better left to the class that originated it?

The tendency to take newspaper jokes seriously is a curious feature of human nature. For a generation or two, New York has been calling Philadelphia slow, and there are people who believe it. They think that, when a bulldog chases a cat in Philadelphia, both animals walk. Yet, any fair-minded person who will visit the City of Brotherly Love, and study it and its people for himself, will come away with a new respect for its solid and substantial character, whether considered materially, artistically, or morally.

Similarly, Chicago is popularly credited with being "woolly"—rough and ready, with little appreciation of literature or art. The truth is that, considering its youth, Chicago is a marvel in all these respects. Every new country with great resources naturally contains some newly-rich who possess more wealth than culture, but our American cities will compare favorably even with Old-World cities ten times as old.

—

C. T. Y. writes apropos of the same article: "You condemn fast reading. Was not Roosevelt a fast reader? You told us a year or two ago how he carried with him on his African expedition his 'pigskin library' of over seventy volumes, and how, before returning to Europe, he sent for more books."

Ans. Yes, Roosevelt was a rapid reader. He seemed to absorb the contents of a book by a sort of sixth sense. In this as in so many other respects he was a remarkable man. Then, too, we must remember that, with his breadth of knowledge, a book would naturally present to him only a few points that were new; the most of it he knew already. He would often sift from a book in half an hour the author's views on some one or two points, which were all he wanted from that book.

Unfortunately, most of us are not Roosevelts. When you and I reach the breadth of knowledge and keenness of intellect that he possessed, we may perhaps read much in the same way. In my article, I was considering ordinary people with ordinary minds. I advocate deliberate and careful reading because I have found that best for me, and as giving

more pleasure than hurried, superficial reading. Superficial work of any kind is unsatisfactory, but Roosevelt's reading, though rapid, was not superficial. He continually surprised those around him by his thorough grasp of the significance of a document after what appeared to be a hasty glance through it.

Just now, I am reading Dickens' "Our Mutual Friend" for the 'steenth time. When I have a few minutes to space, I pick it up and read leisurely enough to thoroughly appreciate its exquisite humor. If I were reading for the story, I should have tired of it long ago. But, I am not in a hurry. It does not matter when I get through, and I believe that I get more enjoyment out of it than I did the first time I read it, fifty years ago.

I know a family who go on an auto trip for their vacation every summer. When they come back, they brag about having made 250 or 300 miles a day. They could not half enjoy the scenery they passed through, and every night they were so dog-tired that they could hardly sleep.

I know another family who take their vacation in their auto, but they go only as far each day as they can go with comfort, and see what is worth while on the road. They are not concerned whether they arrive at a certain point on Thursday or on Saturday.

One does not need to ask which party gets most out of the vacations.

It is much the same with reading. The American craze for speed takes many forms. We will surely live longer and get more out of life if we cultivate calmness and deliberation.

A. P. W. asks: What do you think of sex novels, so called?"

Ans. There is one good thing about them—one is not obliged to read them. As one Chicago critic said, with apologies to Mother Goose, speaking of one of Eleanor ———'s books, which is said to be rather high flavored:

"I like little Eleanor
Her books are so warm,
And if I don't read them
They'll do me no harm."

Crumbs, Mostly Second-Hand

The young couple who are about to commit matrimony on the theory that two can live as cheaply as one, had better reflect that the theory applied only to a dog and a flea.

The monkey became man when he climbed to the top of a tree and studied the higher branches.

The only second-hand article that preserves its original value is a widow.

Bank tellers are enclosed in wire cages to keep them from biting the Sunday-school teacher who wants to exchange $9.93 in dimes, nickels, and pennies for a new ten dollar bill.

The greatest blessing we have is work. There can be no true happiness without it.

Let us leave the world a little better place to live in for our having been in it.

A sneer is a coward's weapon.

Ridicule is the cheapest argument there is; but some people seem to regard it as conclusive.

An old colored mammy brought back to the store a pair of stockings and asked to exchange them. Said the clerk: "Why, didn't they come up to your expectations?" "Lahdy, no, dey don't eben cum up to mah knees."

2920 Warren Ave.

He who does the best his circumstances allows does well, acts nobly. Angels could do no more.—D. W. CATHELL, M. D.

Good Medicine

Let us learn as we go, but not forget what we know

Conducted by GEORGE H. CANDLER, M. D.

Ave Onion!

WERE it not for the painful fact that Old Doc Munyon, a ship's trunnion (whatever that is) and the common domestic bunion are the only things which will rhyme therewith, I would here and now write a poem (which would bring tears to your eyes) upon that bulbous and succulent vegetable, the ONION, making due reference *en passant* to the virtues of the lank leek and the potent garlic. Roses, lilies, pansies, daisies, sunflowers—even dandelions—have been "embalmed in song"; but, not one of them, except the latter, is of real interest to humanity from a pharmaceutical or culinary standpoint. I find no mention of the Onion in Dante's works; Byron strangely enough omitted to give it a kind word and Bobbie Burns—though he dallied with a daisy (it was a habit of his)—entirely forgot this more obvious plant. Even in Holy Writ I fail to discover any reference to the Onion, though there's a leek there. It is somehow saddening to think that a poet, after raving somewhat after this fashion:

Oh rose, oh beauteous red, red rose,
Enfolding in thy crimson heart a honey bee;
How fragrant art thou held beneath my nose,
But how distressful that bee's sting in me!

Ah, rose, dear red, red rose,
'Tis thus, alas, our hearts are always wrung;
We view, draw closer; on the blossoms close—
And then (some nine times out of ten) get stung!

could sit down and regale himself upon bread and butter and a Bermuda onion! The latter is just as odoriferous as the inedible rose and has almost as good a sting (*g*, please, Mr. Printer! Not *k*) as the little bee; yet, up-to-date, no one has had the decency to write an "Ode to the Onion."

Yet, what other vegetable of its class has such a strong-and-enduring claim to fond remembrance? From infancy to old age, the Onion is with us (sometimes too much so) and in the dear, dead past, it always came, nicely chopped up, along with the caviare and Pilsner at 1 a. m.—or perhaps a trifle earlier. Now, the Onion sticks with us but the caviare is white-fish roe from Lake Michigan, and the Pils—— No, I simply can not, *will not*, think of that; neither will I wring your heart by suggesting the fact that Hoffbräu or Würzburger served very well in a pinch.

Ah! well, let us, in this arid waste, return to our *allium sativum*—we are still graciously allowed to eat garlic, if we want to. (N. B. Onion juice will *not* ferment even with a raisin in it:) There are, of course, Onions and Onions, the range in potency being from the little silverskin (which is always pickled) through the various sizes of Red Danvers and Yellow Globes up to the big Bermuda. The latter is a very gentlemanly vegetable (for an Onion) and may be eaten with great advantage in the bosom of one's family. It is juicy, comparatively nonodorous and exerts a distinctly tonic action upon the gastric mucosa. I have cured several confirmed "dyspeptics" by making them eat little else beside oatmeal porridge, bread and butter and Bermuda (or Spanish) onions for a week or two. The ordinary onion—especially the red variety—is just as serviceable but possesses more onioncy, so to speak. Therefore, a little of it goes quite a long way and, moreover, is apt, if overindulged in, to exert a decided diuretic effect. For this reason, it should be prescribed with caution.

Obviously, upon occasion, the free use of onion is distinctly indicated and it may be depended upon to produce results. Older writers strongly recommend the freshly expressed juice of the red onion as a "sovereign remedy" for the ordinary cold. "A teaspoonful in hot milk" was suggested and I quite distinctly remember trying intelligently and faithfully to secure one fluid dram of *succus allii* from two large onions. I cut one bulb in half and put it in the lemon squeezer; weepingly, I squeezed (or squoze, as you prefer); but beyond several squirts into my face and over my best (and

only) coat, not a minim of *succus* did I secure. Then I cut up the other onion—still weeping softly—and pounded it with a potato masher in the chopping bowl. I had, in ten minutes a *beau-ti-ful* onion poultice but the *succus*, again, "was not." Indeed, to this day I do not know how one would proceed to get an ounce of onion juice—pure and undefiled—in one place. Mainly for this reason, I have let people get their juice *au naturel*—just prescribed "one onion at noon and before retiring." Here it might be well to mention that, if the patient is married (or even preparing to be), the party of the second part should eat onion also; so, it is possible for them to converge towards each other and hold sweet converse without getting severely shocked. Moreover, their tastes become distinctly similar, which is, of course, highly desirable.

As a youngster, I knew a dear old lady, who wore a sunbonnet and had a mustache, who was strong for (and generally *of*) onions. She declared in and out of season that, if one would only eat an onion three times a day, he would never need a doctor. She didn't, except to sign her death certificate. She cured colds with onion stewed in milk; she put grated raw onion on "boils, blains and putrefying sores" and they got well; she used onion poultices for "sore throats," colds on the chest, "pneumony" and "browncritters" with wonderful results, and earache simply disappeared when she put the heart of a roast "injin" into the auditory canal. At the time, I rudely spoke of her (behind her back) as "old onions" but, in after years, as I went on my professional way, I often wished that I could do with my materia medica what she did with her onions. And, I am frank to say, more than a score of times I have followed in her footsteps and secured the desired results.

The Onion, *allium sativum*, really is a useful, though smelly, remedial agent, possessing expectorant, stimulant, diuretic and rubefacient properties, and he who devises some method by which the juice can be preserved and made available for use at any time will confer a distinct benefit upon suffering humanity.

Allyl sulphide appealed to me as likely to possess distinct merit, but, alas, it proved infinitely inferior in most cases to the bulb itself and this, it is unnecessary to state, was a severe blow to one who believes firmly in the efficacy of the active principles! It certainly was not that the smell was lacking or that the patients were not aware that they were dallying with the onion family: simply, the desired results were not obtained, save in croup and certain obstinate forms of bronchitis. There, allyl sulphide does accomplish things.

Allow me to suggest that you try onion juice—or even the tincture of red onion—in some cases of cystitis with constant desire to urinate, and the passage of calcareous concretions. You will, I am quite sure, be surprised at the results. It is, of course, necessary to continue such medication several days and, if you are at all uncertain about the patient's water supply, order aqua distillata or Vichy and plenty of fruit juices. Skimmed milk may also be given freely.

Further, if on your rounds you are called to "do something" for a torturing earache in a child, and the cause thereof is not apparent, instruct the mother to apply the core of a baked (not boiled) onion, as hot as it can be borne, and that patient will sleep within the hour and the mother will call you blessed.

If moreover you have (and who has not?!) a sleepless, nervous "dyspeptic" patient, give some simple laxative and instruct him (or her) to eat an onion, sliced and lightly salted, with a little bread and butter about an hour before retiring. After a night or two, he will probably emulate the seven sleepers of Ephesus.

Again, more or less elderly individuals may nonchalantly or with deep pathos in their voices call your attention to the fact that there is little or no hair in the place where their hair ought to grow, and want to know what you are going to do about it. To such announce authoritatively that an onion rubbed thoroughly over the scalp each night will restore (more or less) the pristine loveliness of their locks. It will do no harm (and will be a public benefaction) if they wash their heads the next morning.

Positively, I have found onion juice to be the "hair grower" and scalp stimulator par excellence. It has its disadvantages but it produces hair (if hair *can* grow) and that's the main thin. After the "flu," it is particularly efficacious.

The Onion—and garlic—have many other therapeutic uses but I have, I hope, said just enough to encourage those of an investigative turn of mind to familiarize themselves—more or less intimately—with the species.

You may laugh at the *Onion* as much as you will
But the scent of the bulb will remain with you still!

In conclusion, as you hope to be able to eat three meals a day until you are three score and

ten years old, avoid the appetitizing, nicely browned, *fried* onion. Partake of him young and tender, eat him raw, stewed, boiled or baked, BUT have but one greeting for allium, *fried*, i. e., *Vade retro Satanas.*

A New and Effective Treatment for Goose Flesh

This distressing condition, which is not infrequently met with in physicians who are called upon to make calls in the night (getting out of warm beds and dressing in cold rooms) may be quickly and effectively treated in the following manner: The pathologic area, even though it be the entire surface, is liberally lathered with tincture of green soap, an ordinary (sterilized) shaving brush being employed for the purpose; then take a safety razor, or a straight one if preferred, and with swift long strokes scrape off all little "pimples" or elevations which comprise the socalled "goose flesh"; any excess of green soap may be removed with sterile sponges and warm water and the surface dried; should there then be any abrasion of the skin, rawness or capillary oozing, it may be treated with a liberal application of turpentine. The effect is amazing.

H. H. JAMES, JR.

Detroit, Mich.

[I cannot but think that the unfortunate physician suffering from goose flesh could secure more rapid and effective results with a sheet of No. 3 sandpaper or a broad flat file than with a safety razor which only covers a small area at one stroke and would be extremely difficult to apply dexterously to the posterior portions of one's anatomy. Moreover, sterile sponges are not always convenient, and, with a file or sandpaper, he would not need anything of that kind. All the gentleman would have to do would be to file (or abrade) himself smooth, anoint the entire surface with croton oil and go about his business with the comforting certainty that on his return to his domicile he would have an interesting group of pustules to evacuate. Upon further consideration, don't you agree with me that croton oil *would* be better than turpentine? And the end result more *"amazing"?*]

I had hoped that the brief case report appearing in the March issue, under the caption, "What Caused Death?" would have proved interesting enough to induce a few of our readers to venture a diagnosis. However, as it was self-evident that the woman involved was distinctly dead, the exact reason for her departure to another plane was really a matter of no particular moment. However, having an inherent weakness for puzzles and—since early childhood—an uncontrollable desire to know *"why* things go" and *"how* they work" I gave the subject some consideration and wrote my correspondent, Dr. O. E. W. Swan, of Lady Lake, Florida, as follows:

"It would be a very simple matter, of course, to say that death resulted from embolism, and it is possible that such was the case. However, despite the fact that you say this woman 'menstruated normally' in October, the writer would be strongly suspicious of a ruptured tubal pregnancy, especially bearing in mind the fact that in November there was a moderate flow for three weeks, which ceased, and that the woman was again well and happy during the holiday season and up and seemingly in her usual health, at 5 a. m. on the morning of December 30."

Upon the appearance of the case report (without comment), Dr. Frank Lenart, of Chicago, wrote:

"I would say from description given, internal hemorrhage due to ruptured ectopic pregnancy. This fear of patient and family that the patient would die only supports my diagnosis, as every woman, even in normal delivery, has the same feeling. Other signs, too, also point to the same diagnosis."

As none has advanced any other theory, let it be entered that this joint diagnosis is probably correct.

He is most free from danger who even when safe is on his guard.

—D. W. CATHELL, M. D.

Let's Talk it Over

Among the Muskoka Lakes

IN the heart of the "Highlands of Ontario" lies the trinity of lakes, Lakes Muskoka, Rousseau and Joseph. It is one of the most popular of Canada's nature sanatoria, a paradise of lake and stream, of forest and island.

Muskoka's charms are as manifold as those of a feminine charmer at her best. They have as many changes of moods and tenses as there are changes in the weather; the face of the waters alters with each passing cloud, whether a fleecy traveller of the skies or a dark and forbidding storm wrack. On a summer's day, each quiet lake has its face wreathed in dimples by a caressing wind, or the prow of canoe or launch makes a path of ripples and wavelets of its own. Each little tarn is a looking glass, more beautiful than ever Alice's was, a mirror which repeats the arch of sky and the dark fringe of trees with perfect fidelity, revealing an inverted world.

Charms by daylight and nightlight; by moonlight and every other kind of light, charms of its own at dawn, another set of charms at sundown; charms when myriad lights from the cottage homes reappear in the nearby waters as if so many stars were floating on the waters and seeing what their world looks like from the levels where folks live.

Let your entrance to this fairy region be, for convenience sake, Muskoka Wharf, hard by Gravenhurst town, because you have a choice of fine trains to carry you there, in such comfort that you are sorry that part of the journey is so soon over. The Grand Trunk knows, through long experience, to introduce its thousands of travelling patrons to dear old Muskoka. It is most important to have a good introduction if your visit is to be the greatest success; and, when the time comes for a transfer of person and property from coach or Pullman to the bright and white of the Muskoka Navigation Company steamer just across the way, you are ready for a good time.

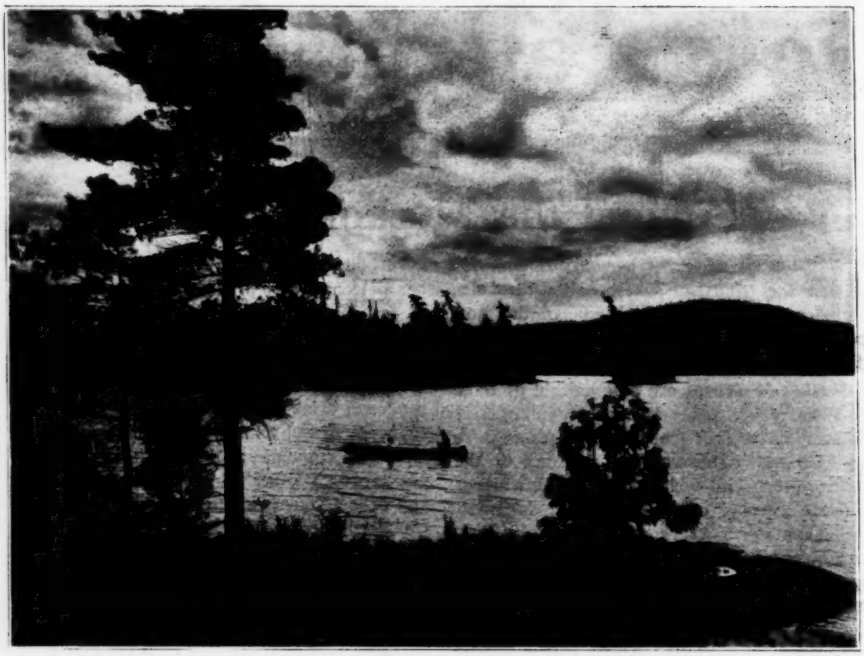
Testiness and sourness and crankiness are as unknown up Muskoka way as hayfever or chilblains or indigestion. Life is worth living where Nature is clothed in her most attractive garb and meets you more than halfway with her welcome. I've proved this a score of times in five minutes by a non-stop watch; for, in five minutes after swinging away from that Muskoka Wharf and when you make the first of a hundred turns around the first wooded bend and drink in the first draft of Muskoka ozone—a special brand supplied nowhere else—and catch a glimpse at the miniature whitecaps chasing each other in a great play game—you've lost your heart to Muskoka. I've never completely recovered mine.

Good bye, Troubles; you're stowed away in the old kit bag in the cellar of the city house;

From the Bluffs

farewell, creditors and tax gatherers; no telephone insists on your attention, no street cry awakes you from your beauty sleep. How little the morning paper is missed, after all! Ireland and Armenia and India and Russia can go to blaz. . No, no, this language won't do for an informing and uplifting article. But, you guess what I'm trying to say in a round-about way; you're in Happyland at last, Arcadia, and Blessed Isles—whatever names are given to delectable regions in this or any other world. Muskoka is a synonym for all of them. So you think, as the tidy little craft—as fine a specimen of home-made-in-Canada boat as you want to travel on—hurries from port to port, from wharf to wharf, from hotel to hotel all through its fifty-miles' course.

Let us do Lake Muskoka first in some sensible, time-table order. Of course, you've



Twilight

heard of Beaumaris, and a beau of a place it is, with the first of the big summer hotels drawing guests to its hospitable halls with irresistible power. It's hard to decide between a modern hostelry or a cunning little cottage hiding coyly behind a clump of trees and yet with enough of a front-door view to take in the passing steamer with its load of happy tourists and cottagers, and to answer back to the handkerchief salutes from both land and water. Which do you prefer? bungalow or tent, cottage or caravansary? Here's your pick anyway, and I would confidentially recommend them all—but, at different times. Here again, I've tried and tested every one of them. What glorious, care-free days those camping ones were when we caught frogs for the sake of their fat and luscious little legs, when pike and pickerel alternated with the main bacon supply —all cooked in the same dear old frying pan until it had a coat of black equal to the best of shoe polishes. The happy nights—so they seem now in comparative old age—when Mother Earth made a bed, save for the rocky bumps in her face; or a scatter of balsam boughs offered a fine line of sleep—save for the beastly knots that found the small of one's back or the large of one's stomach. Isn't it a fine provision of life that we forget the little troubles and remember mostly the big joys? That's why memory is a God-given gift when it is rightly treated.

You can live like a hunter and trapper or like a king or aristocrat up here in Muskoka; you can fish for the fish you eat or eat the fish some one else has fished for you. You can pull an oar in a boat or handle a tiller in a skiff when the breezes are blowing down lake, or with your victory-bond interest you can make the motor launch do the hard work while you rest your head on the softest of pillows and live for a time in Take-It-Easy country. In a word or two, you can do as you dern please in the Highland country, so long as the game and other laws are observed and you respect your neighbor's property.

Milford Bay is it next? Then Hutton House and Rossclair, and Mortimer's Point and we're on the way to Bala, now, to the west shore of Lake Muskoka, with Bala Park and Bala Road and Bala Beach and Bala Bay and every other bally name that starts with Bala. No wonder, sensible people, hundreds of them, have long since discovered this beauty corner of Canada and have built summer homes in as many architectural styles as there are homes. Swinging back over part of the route, our boat heads northward for Indian River as the connecting

Bon Voyage!

stream between Lakes Muskoka and Rousseau. A cute little waterway it is, having its own individuality, and beauty, too, and not admitting for a moment that mere scattered, sprawling lakes are equal to a well defined distinctive river. Everybody stops—perforce—at Port Carling and everybody is willing to, without any kind of force, for it is the half-way house of this northern garden of isles, putting on airs because it has a canal lock, the opening and closing of which adds to the events of the day. Here, too, everybody meets everybody, from up and down lake, and great is the chatter that is heard on its cement walks.

Lake Rousseau also welcomes you with open arms. The islands recede so as to provide an entrancing vista of the sweep of water that does not end till the Royal Muskoka hotel is sighted. Rousseau is as full of beauty spots as the lake itself is of finny beauties, at least so the guide books declare. I've seen many a bonny catch with my own spectacles, and, in former years caught not a few myself, including a vicious old wall-eyed pike that nearly fastened his teeth in my good right hand. When the autumn days come, the deer hunter succeeds the cool-weather hunter and many an antlered beauty comes a cropper.

Rosseau is a hive of humanity, a city of dwellers on island and mainland, living the relatively simple life, living mostly on the water—with some meals thrown in, living happy days and happier summer nights when the world has a glamor of its own and Cupid works overtime. Many matches are no doubt made in Heaven, but some are fixed up in Muskoka. Believe me, a blind man could prove it from his own observation. The golfer golfs the happy days away as the dancer dances them into happy oblivion. Aquatic sports abound, regattas follow in quick succession, picnics thrive and a terrific amount of visiting is done between times. But, what suits me to the ground is the chance to have slathers of sleep such as is never possible in the noisy, crowded city—late sleep in the mornings—when there is no early bird fishing stunt on, an afternoon nap, a snooze for forty seconds after dinner and again a full night of dreamland. Why, it would turn a totem Indian into a live one and make a graven image dance for joy. THIS IS THE LIFE—!

Islands abound from a one-tree proposition, standing up like a bare flag pole, to a thousand-acre isle, clustered with the greenest of trees

and bordering the cutest of coves. Some of them are obviously Diana Pools; and, when they are patronized by a few dozen selected American and Canadian Beauties, amphibious charmers for the moment, the pellucid pools take on an added attraction and one wishes for his own bathing suit, the new one he has brought with him, and a boat-stop long enough to be sociable and join the crowd. It's great that introductions are not needed—in the water. One touch of lake makes the whole world of swimmers kin.

Hello, by all the stars, here's another canal—at least a hundred yards long, making it possible to sail on an even keel from Lake Rousseau

On Timagami Water

into Lake Joseph. While you're doing this, or letting the Cap'n do it for you, sounds of revelry, by day AND night, come from the big Port Sandfield House. What a host of guests it has put up through its long and honorable history, including this chronicler more than once, as he is willing to remember! Was it he who once upon a time took part in a midnight pillow fight? Perish the thought and down the slander! It must be a pipe dream.

So into Lake Joseph let us sail. The newcomer wonders if there will not be a scenic anticlimax after all he has seen in the passing panorama of the day. But, his fears are groundless. Big Lake Joseph and Little Lake Joseph need fear no water rivals; their islands need have no comparison fears with other isles in other lakes. Yoho is up to standard—the big island where, years ago, I helped discourage a forest fire; Chief's Island, the center of rare hospitality; Craigie Lea, with a door on the latch, Stanley House where the guests have their own war cry, and, up at the topmost end, Port Cockburn from which you have a long-distance sight of as many miles as the range of human vision can cover. And what a view! More and yet more islands, each prettier than its neighbor; cottages different from all the others, the water alive with varied craft, and everyone as happy as kings.

What more would you ask for a holiday? Muskoka is worth journeying many leagues to see, as thousands do. I'm never surprised to meet a Louisianian up there, or a Georgian feeling as much at home as if he had been brought up on the National Anthem. In fact, our dear, likeable American cousins—I write in my capacity as a native-born Canadian—have discovered Muskoka more than we Canadians. They know a good thing when they see—and taste it, and they are Good Samaritans enough to tell others about it instead of keeping the good news selfishly to themselves.

Such is the story of the Highlands of Ontario, or at least the Muskoka Lakes part of it,—one of God's most beautiful gardens, a garden of the open world, of the arched sky, a garden of delight and of health where the Elixir of life is kept on tap and where he who samples it is rewarded with a renewal of Youth that will make him over.

FRANK YEIGH.

Chicago, Ill.

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[Vacation time? Why, winter is hardly gone! Still, sure enough, it's May. In a few weeks more, the kiddies will be tearing home, breathless and excited; school is closed for the summer. Gee! Where do we go?—Well, why not to Muskoka? Our good friend, Mr. Yeigh has painted it in sufficiently glowing colors to tempt us sorely. An' we could as we would—Oh, pshaw—what's the use. Let's play hooky and go.—ED.]

GOOD LOCATIONS

A Missouri physician informs us that he intends to retire from general practice, after thirty-five years of work in his locality. He says that he can put a man into a good paying practice at once.

The town is due south of Kansas City, two good railroads passing through it. It is a county seat, with a population of three thousand; has fine schools and churches and is surrounded by a fine prairie farm country. The climate is delightful. Letters of inquiry may be sent in care of the Managing Editor, CLINICAL MEDICINE, 4753 Ravenswood Ave., Chicago, Ill.

We are informed that Dr. B. F. Goodlet, of Travelers Rest, S. C., is looking for an assistant or at least for a competitor in his town. The practice is in a country district and the doctor, being no longer young, can not handle it alone.

Doctor Goodlet, we are told, says that he will give half his income to a man who will come and associate with him, and the new-

comer is welcome to take over the entire practice if he can gain the confidence of the people.

This looks like a wonderful opportunity for some good man who is not afraid of hard work and who is competent and able to deliver the goods. It must be remembered, though, that it is country work. Physicians in good health, vigorous, competent and anxious to do work should communicate with Doctor Goodlet if they are desirous to investigate the matter.

Dr. B. C. Keister, Americus, Ga. (P. O. Box 93), informs us that he is retiring from practice.

The little city of Americus, he tells us, is ideal as a location for a first-class physician. The climate is beautiful in winter, about like that of Florida.

Doctor Keister has for sale one Leitz microscope, almost new, with the necessary equipment ($60.00); also one new "Ever-Ready" bill file which he will dispose of at half price.

It seems to us that here is a splendid opportunity for a man approaching middle age who finds it desirable, for reasons of health, to locate in a mild climate. The practice is there and awaits a competent practitioner.

There is a fine opening in the town of Winn, Michigan. The nearest doctors are nine, nine, twelve and fourteen miles away. Collections are good. Twelve miles to nearest hospital. Call or write to Doctor Fox, of Winn, Michigan.

A woman physician desires a salaried assistantship to a busy practitioner, or a clinical position. She has had seven years' experience in general practice.

AMERICAN PROCTOLOGIC SOCIETY

The secretary of the American Proctologic Society, Dr. Ralph W. Jackson, 251 Cherry street, Fall River, Mass., informs us that the twenty-third annual meeting of the American Proctologic Society will be held in St. Louis, Mo., on May 22 and 23, at the Hotel Claridge. There will be several public sessions which all physicians are cordially invited to attend, even if they are not members of the society.

The preliminary program contains a number of subjects for presentation and discussion that are of great interest not only to proctologists but to general practitioners.

AUTOTHERAPY OF HAYFEVER

In the May (1921) issue of CLINICAL MEDICINE, were some interesting reports on the treatment of hayfever. I have made a note of the suggestion of my old friend, Dr. J. E. Engstad, of Grand Forks, North Dakota, on the use of thyroid in these cases.

My most brilliant results have been secured from the use of autotherapy according to the principles first enunciated by Dr. Charles H. Duncan, of New York City. The theory is that, whatever infection the patient has, is to be found in his blood; or in his mucus or pus, if these are present. The theory is one that appeals to the mind trained in modern vaccine therapy. Autogenous vaccines grown in vitro frequently fail because the culture did not "take." In autotherapy, there is no failure to get all of the foreign proteins of the bacilli causing the trouble, because the blood or pus or mucus, or all of them, are used without eliminating by accident or design any of the toxins of the offending organisms.

In the hayfever cases, it has been my practice to use only blood as a source of the therapeutic dose. The blood is drawn from any convenient spot, usually from the basilic vein. One dram to the ounce of distilled water is the proportion advised by Doctor Duncan. In practice, however, even a much less amount is effective. Nature seems not to be so particular about the exact dose as about the right medicine. The blood solution is allowed to stand at room temperature for 24 hours. At the end of that time, it is run through the Berkefeld filter. Ten minims of this filtrate, given hypodermically in the gluteal muscles, every second day for 5 or 6 days, will clean up the infection. Usually, the hayfever symptoms will disappear in 24 hours as if by magic.

The intravenous modification of Rogers is, that this blood solution is diluted with distilled water, 9 parts to 1 of the preceding blood solution, until it has been thus attenuated 5 times, leaving the final solution about three two-and-one-half millionths of the original strength of the blood drawn from the patient. One and one-half cubic centimeters of this fifth decimal dilution is given intravenously. In my practice, if further doses are administered, the filtrate of the original solution is used as described.

Miss R. S., age 26, government clerk, July 3, 1919, has been subject to hayfever every summer for 10 years, is now at the height of an attack, temperature 100.5° F. Patient very miserable, yet trying to carry her work and to prepare for her approaching marriage, set for two weeks from date.

Thirty minims of blood were taken from the median basilic vein and put into one ounce of distilled water and the mixture thoroughly shaken. This solution was allowed to stand for 24 hours. A few drops if it were then run up with distilled water to the fifth decimal dilution which was equivalent to 3 five-millionths of the strength of her own blood. On July 4, 30 minims of this fifth decimal dilution were

injected into the median basilic vein. By evening the patient felt surprisingly better and, on the morning of July 5, she awakened without a trace of her hayfever. There was no return of the trouble. She was overjoyed at this relief. As a matter of precaution, she was given, hypodermically at two to three days' intervals, 5 doses of 10 minims each of the original solution (that is, 30 minims of the blood in one ounce of distilled water), this solution having first been passed through a Berkefeld filter 24 hours after the blood was drawn from the vein. The filtrate thus secured is aseptic and is guarded to maintain this condition.

Mrs. J. C., age 45, also a government clerk, subject to hayfever for several years, on the same dates as in the preceding case and according to the same procedure, was treated with her own blood and with the identical result; that is, a complete disappearance of the hayfever within 24 hours after taking the first dose.

Both these patients were treated in an autotherapy clinic arranged for some Baltimore physicians who were interested in the method of Dr. C. H. Duncan, of New York City, the founder of the school of autotherapy. It is not essential that the first dose be administered intravenously. The same result has been obtained by using only the filtrate and giving all the doses hypodermically. The principle involved is, that the patients' toxemias can be dispelled by the use of a solution of their own blood.

Good results have been reported by mouth, and from the use of triturations of the blood with milk sugar, also given by mouth; but, in my own hands, the best results have followed the intravenous or hypodermic method, or a combination of the two, as described in the cases reported.

CORA SMITH KING.

Washington, D. C.

PREMATURE OLD AGE

A case of the Lorain Type. Aged sixteen year. Male. Four feet high. Face and hands scaly and wrinkled. Body resembles that of an old man. Mind perfectly good. Reads and writes. Genitals infantile. No hair on pubes. I took the photos with a small kodak.

[Unfortunately the films which Dr. Standlee sent us could not be made to yield good prints.—ED.]

I put the boy on desiccated thyroid substance, which he has been taking now for two months. So far, no improvement can be noted.

One brother died, at eighteen years of age, who was afflicted in the same manner. He has a younger brother, now thirteen years old, who apparently is perfectly developed; only, the

cheeks under the eyes are a little irritable. I am giving him thyroid substance also, being hopeful to bridge him over the age of puberty, after which time he will probably develop normally.

T. H. STANDLEE.

Calle Morelos No. 15,
Saltillo, Mex.

THE DOCTOR'S OFFICE ATTENDANT

It has been my privilege to call on a great number of physicians, both in large and small cities. I have found from observation that the physicians who employ office attendants are in the minority. The object of this little article is not to criticize but, if possible, to be of assistance to the doctor's attendants.

The old saying is, "it is impossible to please everyone"; and there is more truth than poetry in that statement. Nevertheless, I can not think of another place where trying to please is more essential. Indeed, I maintain that the attendant can go a long way in helping the doctor build up and extend his practice.

We know that the majority of people that come to see the doctor do so on account of ill health. We also know that, when we are below par, it is hard to smile and to see the bright side of life. Right here is where a courteous attendant can be of great help; but she can also be a detriment to the doctor's practice—according to her manner in meeting these unfortunate people.

It has been my misfortune (I do not know if this is just the term to use, because in so

many cases it has proven to be of great benefit) to sit in a doctor's reception room from one to two hours, awaiting my turn. These are some of the remarks I have heard. "Oh, how I wish I could see the doctor without having that haughty, unpleasant young lady speak to me. I know some people that refuse to come to the office on her account. She just naturally freezes you out." If a salesman or detail man should occasionally stray in, he is shown the door almost before he enters. He feels it in the atmosphere going up the stairs.

One incident left a deep impression on my mind. It was on a very gloomy afternoon, a few weeks ago, that I called on a prominent doctor in a town in Illinois. I found the doctor's office attendant sitting by the window crocheting (from the way her fingers flew, she must have been making the lace they call "a mile a minute"). She never looked up to see if I was black or white, male or female; just blurted out, "Doctor's not in. I guess he'll be here soon." Having a little time to spare, I decided I would seat myself and wait, without an invitation. I had no sooner sat down before a woman came in. My heart went out to her immediately, because she wore such a distressed look. Unfortunately, she was able to speak but little of the American language, which made her sensitive and timid. She received the same saucy reception as I did. Consequently, she departed very quietly; no doubt, in search of another doctor.

If that young lady had been diplomatic, greeted this woman with a smile, inquired if she could be of service to her, sending her away with the assurance that the doctor would get in touch with her upon his arrival if she did not have time to wait, the woman would have left satisfied that the doctor's attendant had done her part. Also, the young lady herself would have felt she was doing her duty to her employer. This is just one case in many.

On the other hand, you find many that, the minute you enter the room, greet you with a smile and give you the glad hand regardless of who you are. Everybody gets the same courteous treatment. Such a woman is a real, honest and capable assistant. These are the remarks you hear in her behalf. "I think Dr. Blank is very fortunate in having such a charming and pleasant assistant. She is always so accommodating. She always keeps in touch with the doctor; so, if needed in a case of emergency, he can be notified at once; a satisfaction to the doctor and patient."

She unconsciously radiates happiness which always makes the wait of shorter duration. With such a helper, the doctor can go along making his calls, knowing that his assistant is doing her duty at the office. I know a doctor's wife that doubled his practice in one year by assisting him in his office work. It was done by her giving just a smile, a cheerful greeting, the time of the day, and also a little sympathetic word. It helps make the doctor's burdens lighter.

Incidentally, one of the most essential things, to my mind, is to have a tidy and comfortable reception room. It leaves a good impression of both the doctor and his attendant. The appearance and upkeep of reception room and offices are clearly part of her duties.

Summing it all up, to be a real successful doctor's attendant, one must be sympathetic, pleasant, courteous and, last but not least, well dressed and tidy.

It is a great calling and also a noble one. The doctor's attendant is placed in a position where she meets people from all walks of life. A kind look and a cheerful word will bring their own reward. It is also a position where there are many opportunities to serve your fellow man. The most satisfying life is the life lived for others. The doctor's helper, his assistant, or attendant is an essential factor in the greatest profession on earth, which is above all one of service.

A. Sales Man.

[Our very good friend, A. Sales Man, happens to be a young lady whose ever-present smile spreads cheer wherever she goes and whose one absorbing mission in life seems to be—service. The lady is a good observer and has described the two contrasting types of office attendants well. We realize that the duties of an attendant in a physician's office may not always be rosy or cheerful, that there is much monotony and, often, distress. Still, we agree with our correspondent that a cheery smile, a cordial and sincere greeting, courteous attention go far to reassure patients who, many times, dread the ordeal of waiting in the reception room. Why not change the ordeal into a pleasant experience? It can be done, and it pays—big.—Ed.]

PELLAGRA

Clinical Medicine occasionally contains articles on the diagnosis and treatment of pellagra. These articles are sometimes written by men who have had little or no experience and, in such instances, they are of very little value

to the doctor who wants to make a correct diagnosis and use proper treatment to cure his cases.

I came to the South twenty years ago, from Missouri, where I had practiced for only one year. I located at Stonewall, La., six miles from where I am living at present. I saw my first case of pellagra, at Stonewall, about 1908. This was the first case I know of in this part of the South. The patient, a Negro girl of sixteen or seventeen years, died. She became, as the Negroes say, mindless for some time before she died. My next case occurred some two or three years later. Since 1908, I have treated between one hundred and fifty to one hundred and sixty patients. All have recovered except two or three that I saw only when in the last stages of the disease.

The diagnosis of pellagra is not difficult. The first thing noticed is a redness like sunburn on parts of the skin, as, the back of hands and wrists in whites. In Negroes, a darkening of the skin, under the eyes or wherever the sun strikes the skin. Later, the outside skin will scale from these parts, leaving the skin in Negroes of a reddish color and scaling. If allowed to progress, the skin will ulcerate in time, also a diarrhea will set up. Usually, the patients complain of burning on hands and feet. Finally, the mind is affected.

The disease became very severe in this part of the South about 1912, if I remember correctly. Dr. Goldberger, of the U. S. Government service, called on me at that time, as he did on many other physicians who were treating large numbers of cases of pellagra. He insisted that pellagra was due entirely to a lack of protein in the diet. From much experience, I believe that he is partly correct: but I am firmly convinced that there are other causes, and that a lack of protein in the diet is not the sole cause. I believe that usually there is also a lack of calcium in the diet; further, some infective or suppurative condition which we, so far, have not been able to determine.

For treatment, I have tried all forms of arsenic, but with very unsatisfactory results. For several years, I have kept all my patients well saturated with calcium sulphide and with a liver stimulant not containing mercury. If there is any fever, I give 2 or 3 grains of quinine bisulphate three times a day. I insist on a nourishing diet of milk, eggs, meat (preferably fresh) and fruit where they can get it. I do not want much sweets used, especially not the poor syrup sometimes sold here.

I have had cases with pellagra that were on a good diet of wheat bread, peas, beans, containing plenty of proteids. Many were on a diet of cornbread and black molasses. All of my cases recover on the line of treatment given. Some return the second summer with slight symptoms of a return of the disease, but under proper treatment are soon well.

We have had practically no cases in the two or three years past. The only cases I have seen were those that did not continue treatment long enough; also, some slight recurrences.

F. O. BRINKLEY.

Forest Park Farm,
Gloster, La.

EPSOM SALT AND DYSENTERY

In answer to a query from Dr. T. H. Standlee, of Saltillo, Coah., Mexico. (CLIN. MED., Jan.), in regard to the treatment of dysentery, allow me to call attention to an old, time-tried, clinically proven remedy in this disease:

Dissolve one tablespoonful of Epsom salt in a quart of warm water. Sponge the body all over, using all of the solution and allowing it to dry on the skin. In ten (10) minutes, give a thorough soap-and-warm-water bath, with clear warm water to follow. As you begin treatment, dissolve 1 tablespoonful of Epsom salt in an ordinary glass of warm water. Let the patient drink this at once, following it by copious draughts of cool water.

To avoid bad taste, instruct the patient to keep the mouth closed tightly all the time both the warm solution and the cold water are being swallowed. We get the taste of things by continually opening the mouth so that the gustatory nerves may become stimulated by the constant intake of fresh air. Keep the mouth shut till the after-drink of cold water tastes sweet, and the bad taste is gone. Later, dissolve 1 tablespoonful of Epsom salts in a quart of cold water and direct the taking of 1 teaspoonful of this every fifteen minutes till relieved.

By this process, you have administered an inside and outside bath of Epsom salts.

Many of the emanations of the human body both by skin and mucous membrane are CO_2, (carbon dioxide). In these cases, the excretory functions are interrupted. The magnesia in the salts has a chemical affinity for the CO_2. By the foregoing procedure, you have unlocked the drainage tube and nature has a chance to unload.

If emetine is needed, give that. Often, by unloading the system, nature throws off the intruder and a satisfactory cure is established.

Great is the action of our old friend and de-

pendable servant, Epsom salt.

In almost any sickness, the suggested is a very important introduction to any treatment.

Do not lay this aside, but think it over!

C. S. Cope.

Tacoma, Washington.

ANNOUNCEMENT OF MEDICAL FELLOWSHIPS

The National Research Council announces the establishment of Fellowships in Medicine created for the purpose of increasing the supply of thoroughly qualified teachers in medicine, in both, clinical and laboratory subjects, and in both, curative and preventive aspects. The fellowships are supported by appropriations of the Rockefeller Foundation and the General Education Board, amounting in total to One Hundred Thousand dollars ($100,000) a year for a period of five years. Those receiving awards will be known as Fellows in Medicine of the National Research Council.

To qualify for appointment as a fellow, a candidate must have the degree of Doctor of Medicine or Doctor of Philosophy from an approved university, or preparation equivalent to that represented by one of these degrees. Only citizens of the United States or Canada will ordinarily be appointed, although the fellowship board is authorized to set aside this provision in exceptional cases. The fellowships will be open to both sexes.

Since the principal purpose of establishing these fellowships is, to increase the number of competent teachers in the field of medicine, each incumbent will be required to gain experience in teaching. As creative work is regarded as essential to the best teaching, emphasis will also be placed upon research.

Fellows will be at liberty to choose the institutions or universities in which they will work, as well as the men under whose direction they will carry on their researches, subject to the approval of the fellowship board.

Appointments are to be made for a period of twelve months, beginning at any time in the year, with an allowance of six weeks for vacation. The time may be extended, however, if in the judgment of the board the work which the fellow has done justifies it. The stipends are not definitely fixed in amount; but they are intended to enable the individual to live comfortably while carrying on his special work as a fellow.

The fellowships will be administered by a special committee, known as the Medical Fellowship Board of the National Research Council.

Correspondence concerning the fellowships should be addressed to the Division of Medical Sciences, National Research Council, Washington, D. C.

RULES FOR PRESCRIBING DOCTORS

Some time ago, the propaganda committee of the Retail Druggists' Association, of St. Louis, issued a letter to the physicians of that city in which various suggestions were made, the carrying out of which would not only facilitate the work of the druggist and benefit the patient but would also be to the advantage of the physician himself. As a whole, the suggestions given in this letter were very excellent. In fact, there are but few with which we do not cordially agree and which we should not carry out if we were in the habit of prescribing.

From the very lengthy letter, we will quote some remarks that are offered for whatever they may be worth.

"Do not prescribe a 'white' powder or a 'simple' remedy; it is generally advisable to add an inert ingredient, such as carbo ligni, pulvis aromaticus, pulvis glycyrrhizæ, etc., in order to change the appearance of the preparation. This will induce the patient to consider the remedy of greater importance. Had this method of prescribing been more in vogue in the past, such remedies as aspirin, phenacetin, antipyrin, purgen and hundreds of others would not have been used so promiscuously by the laity.

"When prescribing liquid medicines, it is not advisable to prescribe colorless preparations; when acid or neutral, they may be colored with tinctura persionis. Syrup aurantii, syrupus sarsaparillæ compositus, etc., may also be used. The compound tincture of cardamon is also a pleasant coloring agent and corrective.

"If liquid 'proprietaries' must be prescribed, they should never be ordered without changing their physical appearance, taste or smell. As in the preceding, the uses of the various syrups or of tinctura vanillæ, spiritus menthæ piperitæ, etc., are recommended. They should never be prescribed 'in original bottles.'

"External medicines of a proprietary nature should be changed by incorporating one of the following essential oils: Oleum gaultheriæ, oleum sassafras, oleum cinnamomi, oleum bergamottæ. The carrying out of these suggestions will in a measure prevent the promiscuous advertising of proprietary preparations through the indirect agency of physicians. As it is today, there are too many of this class of remedies which have become 'household remedies' through having been prescribed by physicians.

"In prescribing, liquid medicines should have the preference; next in order, 'shake remedies,' then remedies in powder form, in cachets, 'freshly made' pills, and finally the capsule.

"To prescribe 'factory-made' pills, tablets or

capsules only, or continuously, may lead patients to believe that too much 'routine' treatment is practiced; variety in prescribing will tend to educate the patient to believe that the physician is 'up' in materia medica and is giving the case his individual attention as well as individual medication.

"The wording, 'as directed,' should be discontinued. In every instance, a dose or specific use should be placed on the label. It may occur that another person than the one to whom the directions were given may be called upon to administer the medicine, and then mistakes are very liable to occur.

"Do not prescribe 'drop' doses; these, even when accurately counted or measured with a dropper, are not dependable.

"Do not prescribe by 'telephone' unless it be to the pharmacist; patients are not willing to pay for such consultations, believing that the case is not of a serious nature.

"If a simple medicament must be prescribed, e.g., aspirin, veronal, phenacetin, sodium bicarbonate, sodium phosphate or remedies of that character, some essential oils, such as oils of peppermint, wintergreen, anise, orange, lemon, etc., might be added; this will improve the taste and also prevent guessing what the doctor has ordered; a great game with many 'shopping' patients.

"It is sometimes well not to inform the patient what is ordered for him; sometimes patients are prejudiced to taking certain remedies or it may happen that the patient will say, 'Why, doctor, I have tried that already; my sister or brother told me of it.' This would surely be humiliating to you.

"Names of the component parts of a prescription should not be abbreviated too much, to guard against errors or delay in the compounding of prescriptions.

"Doses should be indicated by both, letters and figures, thus: Two (2) tablespoonfuls, three (3) times a day.

"To state the age, or the words adult, child or baby, as the case may be, on the prescription, would be a safeguard against overdoses. It is, however, safer to state the age, since frequently the word 'baby' appears on the prescription, and after calling the doctor's attention to the dose prescribed, we are informed that the baby is 4 or 5 years old. Had the exact age been stated, much unnecessary annoyance at times might have been avoided. Large doses should always be underscored.

"Before criticising a compounded prescription to the patient, consult the pharmacist who compounded it. It would be well to determine upon whom to place the blame before making any statements, if an error is suspected. It is hard to live down an unjust suspicion.

"The prescribing of 'cipher prescriptions' should not be engaged in; it may reflect upon the physician when a pharmacist, who can not compound it, resents this action of the physician.

"So-called 'shotgun' or polypharmal prescriptions may impress the patient as being obliged to 'take the whole drug store.' The more intelligent patients may presume that the physican has not made a definite diagnosis and is groping in the dark.

"It may be safely said that a well written prescription recommends a physician as well as a written letter would impress a person to a stranger. The old saying, 'We are known by our words,' again applies here.

"Before prescribing a proprietary remedy, consider if the United States Pharmacopoeia or the National Formulary, does not supply a similar preparation. It is more professional and ethical to prescribe U. S. P. and N. F. remedies. To prescribe proprietary remedies, aids materially in creating 'household remedies,' which are handed on from family to family and simply take the bread out of the physician's mouth.

"It should be considered that U. S. P. and N. F. preparations are not advertised to the public.

"Should there be a question regarding incompatibilities, it might be well to consult the pharmacist, who will cheerfully assist you, because the pharmacist should and does excel in the knowledge of chemistry, whereas the physician does excel in therapeutics. In fact, cooperation between the medical and pharmaceutical professions will redound to the benefit of both. Fraternally,

"The Propaganda Committee of the Retail Druggists' Association of St. Louis."

NEGRO HEALTH WEEK

The key note of National Negro Health Week, April 2 to 8, last, was that the Negro death rate, as shown by the Census returns, is not only not increasing, but is steadily decreasing and, moreover, is no higher today than that of New York and Boston was forty years ago and is only about two-thirds as high as that of Trieste, Petrograd, Montreal, Venice, and other cities at that time.

From this it will be argued that American Negroes are not necessarily shortlived or especially liable to disease and that their death rate is high because of their comparative poverty. Everywhere, the colored people were told to look after their health, that they are not doomed by nature to an early grave, but that by care they can avoid many of the ills that lie in wait for them and prolong life for many years. In the last eight years, the death rate of the Negro policyholders in one of the great New York life insurance companies has been reduced 9 percent.

Incidentally the employer's attention was directed to the fact that it is estimated that in the States that have a large Negro population, 450,000 of them are sick all the time and that 225,000 die annually; that about half these deaths would be prevented by better hygienic conditions; and that such a saving would do away with much of the annoyance

and industrial loss that now results from absenteeism due to ill health.

This year's health week, the eighth to be held, was conducted by Dr. R. R. Moten, principal of Tuskegee Institute, under the auspices of the Annual Tuskegee Negro Conference and the National Negro Business League in cooperation with the U. S. Public Health Service and many other associations.

The week began on Sunday, April 2, with health sermons and lectures by qualified persons, who explained what Health Week is and urged cooperation with organized associations, especially emphasizing mother and infant welfare work to reduce the high infant mortality, which is about double that of the whites.

Monday was hygiene day, when personal and community hygiene was discussed and social hygiene education and venereal disease control measures considered. Tuesday was "swat the fly" (and incidentally the mosquito) day; the spread of disease by insects and the need of screening being emphasized. Wednesday was children's day and was devoted to stories of health crusades, cleaning up school buildings, and commemoration of the birthday of the late Booker Washington. Thursday was tuberculosis day, when special attention was called to the fact that the disease is not hereditary and that treatment should be begun early. On Friday, church sanitation day, churches were cleaned and toilets put into sanitary condition. Saturday was a general clean-up day.

BIRTH CONTROL

It seems to me that we are not considering this very important subject nearly as seriously as we ought to. That is, the people as a whole are not concerning themselves with it as much as they should. When nations suggest that we must have war to decrease the number of people, one must consider this subject as of great importance. Just recently, there appeared an article about Japan either having to expand to find habitation for her growing population or make war to cut down the increasing numbers of her inhabitants. Such suggestions should form food for serious thought to every living person of mature age.

From what has been said, pro and contra, in the various writings that have come to my notice the past few years, I believe that some of the writers treat this important problem as a sort of a joke. From what has been said and suggested, there has been very little progress made toward any definite conclusions. Perhaps it is only an attempt of the writers to arouse the public from its lethargy and stimulate it to express itself on the question.

In an issue of a certain medical journal, a writer suggests the elimination of undesirables as an attempt to limit birth. To my mind, such a procedure would be impossible in the strict sense of the remark. It is true that the birth rate could be checked in this manner; but we are confronted with the question of who is and who is not an undesirable citizen.

The basis of the theory was, that parents of low mentality were generally the heads of large families. That assertion can be answered both, by negative and positive affirmation. From personal observation and study of this theory for the past several years, I have become convinced that there are large families among parents of high mental faculties as well as among the low. I realize that, by limiting the number of children of the low-mental capacity parents, humanity would be placed on a higher plane, but that would not check the increase in population as much as one would find necessary.

In another article, a writer suggests that the number of children a family might have should be fixed definitely. That would be a good solution if one could enforce that limit. Various other methods have been suggested but can be ruled out of order or found to be lacking in some point or another.

In giving the subject my serious consideration, it appears to me that about the sanest method by which we can limit an excessive birth rate is, to raise the age when men and women are supposed to arrive at maturity and, with it, the minimum age when parties can marry. Careful study has shown that children born of parents of mature mental and physical development are brighter and stronger than those born to parents of immature age. Under our present laws, we frequently see boys of nineteen or twenty and girls of eighteen or nineteen years marry and procreate children when they (the parents) had not reached maturity by a number of years. Children of such parentage will usually be underweight and also lack in mental development.

When we view nature, we see the same principle apply to plants and animals. The gardener sows the seed, but he is careful to select only the strongest plants for planting. The stockman selects stock of mature development for breeding purposes as, by so doing, he is assured of getting strong offspring. He does not breed the young animals because he knows the results. The same principles can

be applied to humanity. By postponing procreation, the body cells could fully develop before they were called upon to reproduce themselves, and they would thus acquire a strong, healthy growth which would be transmitted to the offspring in man as well as in animals or plants. To my estimation, such a plan will form the basis with which to control the birth rate better than any of the suggestions which have come to my notice in the various journals. Perhaps a modification of two or more of the plans will offer still better suggestions. Here's hopin' that more ideas be expressed in the columns of our papers, so that we may arrive at a satisfactory solution.

W. P. BOSSENBERGER.

Williams, Iowa.

JUGULATING PNEUMONIA

After reading the two articles in the March issue of CLINICAL MEDICINE on "Jugulated Pneumonia," I would like to ask through you, Mr. Editor, how many of your readers believe that pneumonia can be jugulated. Dr. Cope's patient was certainly a very sick man, and I do not intend to criticise his treatment. The point is, did the patient have a pneumonic infection? Not every case with a temperature of 104° F., pulse full and bounding, red face, headache, pain all over, etc., has or is headed for pneumonia. My experience has been that the majority of patients with such symptoms have not. When, after a thorough examination, my patient recovers promptly, with no physical signs in the lungs, I am not egotistical enough to pat myself on the back and say that I have jugulated pneumonia.

Dr. Shook's little grand-daughter may have had pneumonia, although he does not mention the physical signs. Many cases of postoperative pneumonia are abortive in type, and recover promptly even in the absence of active treatment. I am still skeptical as to the possibility of "jugulating" a positive pneumonia.

ISAAC E. CRACK.

Hamilton, Ontario.

[What about it? Let us have it out.—ED.]

DOCTOR KATZOFF'S BOOK

On page 296 of CLINICAL MEDICINE for April, there appeared an article under the name of "Timely Truths on Human Health" in which the writer took exception to our discussion of his book. Quite unintentionally and inadvertently, the author's name was omitted at the end of his communication, on page 298. It should be entered there, namely, Dr. Simon L. Katzoff, Bridgeport, Conn. We are sorry that the omission occurred and desire to make up for it in this place.

HONOR TO AN OLD PRACTITIONER

A few weeks ago, we received word of a pleasing tribute paid to our old friend Dr. A. D. Warner, of Burton, Ohio, who has practiced medicine in his county for forty-seven years and the greater part of that time in Burton.

On the occasion of his seventy-fifth birthday, last October, The Geauga County Medical Society gave a banquet at which suitable tribute and well-merited tribute was paid to Doctor Warner.

In a communication to the Editor, Doctor Warner says that he has employed remedies on "the alkaloidal plan" for more than fifteen years and that he would never go back to the old way.

We trust that Doctor Warner may long be able to visit his patients and to carry cheer to those in need of it.

Our sincere congratulations!

THE HARRISON HOLE BUNG

The Bung has been discovered for the Harrison narcotic law (trap) hole. This Journal printed an article by me, entitled "The Harrison Law Trap Hole," the latter part of 1920.

This law, suiting the punishment to fit the crime as found against me by a jury on January 21st, 1922, in the Federal Court of the United States, has assigned to me a fine of $55,000.00 and imprisonment in the penitentiary for 22 years.

Herein, I believe, the Government has displayed a weakness which will eventually loosen its grip and whereby the Harrison law will be wiped out entirely.

In the said article of 1920, I stated: "I am not opposed to the Harrison law and, in fact, approve of it." But, now, I am opposed to it and do not approve of it. I tried it once, but never again.

Now, let us wipe it out! It touches only one-fifth of the narcotics used in legitimate fields, principally by physicians in piloting these addicts through its valley of the shadow of death, and leaves uncontrolled the other four-fifths spread by smugglers, bootleggers and traders.

I believe that your readers will be interested in the more extended elucidation of this pro-

cedure, too long to relate here and now, but it may be done in extenso later on. Suffice it now to say that an appeal for a new trial is pending in this case of "United States vs. Green."

In the event of no new trial being granted on the legal points and exceptions in argument for one, an appeal can be taken.

In the event of a new trial being granted, I do not feel financially able or morally bound to go on alone with it, nor at all unless the medical profession at large will help! As to this, I have put the question squarely up to the profession and am now waiting the decision of the A. M. A.

While the issues are an open matter, there should be an expression on them and advice by our readers in your columns. "Time and tide wait for no man: 'our profit can come only from the sense of a big and splendid challenge met, of a worthwhile task done, in time.'"

I was urged by the Government officials to pay a fine; "most of the doctors do it that way, and that's all there is to it."

Let's try and find out how much leak is, and has been, going on in this way from the professional pocketbook. We have the bung, let's stop the leak.

Ignorance in professional matters can never put the Government right, and it can not get right and strong until it is ensconced in the truth.

Truth is of the utmost importance, even as health is to the brain and heart centers, the mainsprings of life.

HENRY L. GREEN, M. D.

Quincy, Ill.

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[Doctor Green's earlier letter appeared in CLINICAL MEDICINE for November, 1920 (p. 760). On that occasion we commented upon the unfortunate business. It is to be hoped that a new trial will be granted to the doctor and that he will be cleared then of any suspicion of wrongdoing within the meaning of the law.—ED.]

COMMUNICATIONS FROM THE SPIRIT WORLD

We will never be able to demonstrate with tangible and material proof that there is such a thing as mental telepathy or communications from those who have passed into the spirit world with those of us who are still left behind. Those of us, who believe in spirit communications, based upon our experiences, can only give you our account of what has appeared to us. Without settled convictions either one way or another, I have had a number of satisfactory and incontrovertible evidences that we do receive impressions and spirit messages, both from the living and the dead. This has been over a period of many years, and today my faith is unshaken on this subject.

In my own experience, I have never believed in our ability to get into communication with the departed through any medium whatever, such as individuals calling themselves mediums, or through table rappings, ouija boards and other similar devices. What I have received from my departed friends and those in this life at a distance, has always reached me without solicitation or effort on my part to communicate with them, though I have frequently thought in a concentrated manner of those from whom I would greatly desire to hear, and have injected all the hope I could in my thoughts at the time. Frequently, I have had most satisfactory responses to these mental telepathic efforts, and they were sufficient to make me believe that my projected effort had reached its object.

To a strictly material and analytical mind, all of this is nothing more than idle speculation, but, who can prove that it is not true? It is true at least for those of us who have received these messages, dreams or impressions often enough to make us *know* that there is something in them.

Then, again, when we get in the domain of the immaterial, the terms we employ to express our meaning are likely to be misconstrued by those who do not measure them by our standards. Pushed to a rigid analysis, who can tell us anything that will convey to our minds a proper idea of the soul, the mind, the intelligence or the emotions? So it brings us back to common ground, and we inquire of one another: what do you believe and why do you believe it?

I have no theory as to how these spirit or soul interchanges originate or are transmitted. I only submit my experiences and deductions from them, and what I have learned from others in reaching a belief, which is nothing but a *belief*, when *proof* is demanded.

The circumstances, which have attracted my attention and impressed me sufficiently to act upon them, frequently have occurred both during dreams and while awake. Physiology and psychology may attempt to ex-

plain the production of these pictures built up and created by the partial use of fragmentary portions of memory negatives; but this is all guesswork. Nor am I concerned in the processes involved. But, what I have found to be apparently intended as communications for me involving my own personal comfort, happiness or safety, have often been received and surprisingly verified.

I am free to say that I have been wrong oftener than right in my interpretation of these dreams, messages or warnings, though I have found them correct often enough to give me great faith in them when vivid enough to impress me forcibly. I am liberal enough to say also that I could trace some of my most horrible warnings to an undigested supper, a stuffy bedroom or an uncomfortable position in bed.

Not wishing to treat this subject with levity, yet feeling that many a true word is spoken in jest, I shall preface my own experiences with a report of another man's dream which was acted upon and, certainly, came true most advantageously to the dreamer.

Many years ago, when the Cheap John lotteries flourished and the playing of "policy" (as it was called) was most popular with a certain class of light-weight sports and colored bloods, I was a young and impecunious doctor who would take a chance at anything to break the monotony of waiting for patients. Within one block of my office, an old Jew ran a two-cent dry-goods and notion store, and, just across the street in front of his place, flourished one of these "policy" shops. As it involved an expenditure of only five or ten cents, the old fellow became an inveterate patron of this lottery. As a matter of curiosity, I went over with him one morning to see how the thing worked, and got interested as well as amused. It got to be an every day necessity and a habit that we two just had to play policy; so, we went over in the morning and again later, to read the drawings. I forget the system now, but it was so arranged that a combination of numbers, played successfully with money enough behind them, would prove bonanza; but, this was seldom the case. I think we had been playing in the piddling way of five or ten cents a day for six months, never winning much, always losing more than we won, when, one morning, as I called by for my old Jew friend, I found him very serious in consequence of a dream which he had experienced the past night. He said, he had dreamed that the figures 1, 2 and 3 would come out that day and that would be the order in which they would come. He said, his dream warned him to play heavily and then never to play again. He raked up every dollar he had in his till, and begged me to put anything I had in the play; then he went over and put it all on 1, 2, 3. When the drawings were written on the blackboard, there stood out the figures 1, 2, 3. The old fellow presented his ticket, and drew as well as I remember, $1200, or $1500. I know, the policy shop had to send out and borrow money to pay him. Was this merely a coincidence, accident or what? My old Jew friend looked upon it as a message from some good soul, sent to him in time of need. He never played the game again.

In my own experience, I have not had very many impressive dreams, but enough to give me faith in the belief that they were for my good and were sent by some friend. In several instances, I have followed the suggestions, have positively averted harm and received benefits in business. In others, I have entirely missed the true interpretation. These may have been coincidences, but I do not so regard them.

In my practice as a physician, I have seen a number of remarkable instances of correct prediction of the day, and almost hour, of death, by patients who claimed to have been given this knowledge either through dreams or by other direct impressions made during their waking hours.

I recall the case of a lady who was suffering with inoperable cancer, with no indications of sudden or early death, who informed me one morning that she had received a message to the effect that she would die that day before two o'clock. Her condition was good, and I saw nothing to prevent her living many months or even a year or more. She was not alarmed or excited, and looked upon the end as a happy termination of her suffering. She desired me to be present, as she wished to see me as she bade farewell to earth. I attached but little importance to her statement, but told her I would call many times before she left us. About midday, I called and

found her bright and cheerful. I then laughingly told her that I would tell her good-bye anyhow. While I was holding her hand, she died before my eyes without a gasp or struggle.

I had a Negro boy under treatment for consumption, many years ago, whose prospects for living were fairly good. He got around with his brothers and friends, and there were no active processes going on in his lungs. At one of my visits, I found him walking about in the front yard, and he seemed to be as well as usual. His mother said to me, "Jim say he is going to die at eleven o'clock today, spirits told him so." He did not die at eleven; but he came into the house, stretched himself on his bed and was dead before one o'clock.

What has appeared to me as the most direct and convincing manifestations of communications from others in spirit form, has been conveyed to me as often while I was fully awake and engaged in the usual affairs of the day, as during sleep and in form of dreams. Without suggestion or previous thought, these impressions, influences, warnings or whatever we may term them, have forced themselves upon me, compelling me to think of the subjects suggested and to try to solve the purpose of the message. I shall call these manifestations "messages" to prevent confusion as to what I really mean. They have come to me frequently. I have acted upon them, and am convinced that they were sent to me by others and were not the conjurings of my own imagination. One or two instances from my own experience are typical of many others that have come to me.

When a medical student, I accepted a position to teach a country school about 150 miles from my home, during the interval between college sessions. About 8 o'clock one morning, just before going to the school house, I was suddenly oppressed with a dreadful sensation that my mother was threatened with great danger. I could give no other explanation to the gentleman who employed me than that "I just had to go home immediately, as I had a presentiment that I was needed there." I took the first train passing and, when I reached my home, I was not surprised to find two physicians in attendance upon my mother for an alarming attack of erysipelas that involved face and head, rendering her delirious. I believe my timely arrival and careful nursing saved her life, and I believe I answered *her call.*

On another occasion, while returning from an early-night call to a child, I was startled by seeing before me the prescription I had left. It was just as plain as it would have appeared in daylight. Had the druggist filled it, thinking it was for an adult, the probability would have been that the little one would have slept its last sleep that night. I simply turned around and retraced my steps, meeting one of the family on the way to the drug store. I found the prescription as I had seen it in my warning, altered it and saved the child's life, in all probability. I always regarded this as a warning sent me.

I could recite a number of similar instances, but will mention only one more—a scene that day and night and for all time is burned into my brain. I cannot be exact but, certainly within a day or two of the occurrences, I saw in a dream as clear as daylight this picture: I was in a forest of scrub and torn trees at the foot of a gentle ascent and to my left a section of evergreens and scrub sparsely interspersed. There was a smoky atmosphere and the roar of cannonading and shell fire. In the distance, I saw my son walking towards this partly cleared opening to my left, and I started diagonally to meet him or cut him off. We met unexpectedly (to him) as we both passed a large holly or scrub fir tree. He did not seem surprised to see me, but was looking overhead and studying the direction from which shells were coming. I noticed that all clothing had been torn from the left side of his body, from shoulder to hip, and his flesh was bare but not torn, nor did I see any sign of blood or injury. I knew that a shell had cut his clothing away. I said to him, "Brother, how are you making out?" and he replied, "I have had a pretty tight time, but (looking up) I may make it," and he passed on.

I told my family of this dream the next morning and felt sure that my son had been killed by shell fire, though I saw no wound or blood. When we finally got particulars concerning his death, we found that he was killed at the exact time of the dream, that he was in the Meuse-Argonne forest drive with his regiment, the Sixth Marines, and

that he was virtually torn to pieces by a shell from his waist down; but that his body was untouched as I had seen it in my dream. I am as satisfied that he sent me his farewell thought of me as I am that there is a God in heaven.

I am unable to offer any explanation of these phenomena that will satisfy the scientific inquirer. In our present state of knowledge, I have nothing to offer. It is very doubtful whether we will ever have greater knowledge on this subject, but, for myself, I believe many things that I cannot prove.

I believe that our souls are immortal and that we meet in this life and will meet in the great beyond with greater knowledge and capacities for enjoying the perfect life.

C. A. Bryce.

Richmond, Va.

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[When men like Dr. Conan Doyle, Sir Oliver Lodge and others declare their conviction of things beyond, and when we read of such agonizing experiences as the last one told by Dr. Bryce, a simple shrug of the shoulder or a contemptuous "just a coincidence!" is out of place. We can no more deny the possibility of communications from the "spirit" world with certainty than we can affirm it. Here, if ever, one man's opinion, belief, conviction is as good as another's. The Bible tells of "spirits" that returned and communicated with those still in the flesh. True, that is not "scientific" proof. However, other things are accepted or assumed for which scientific proof, so called, is impossible. Each man will have to decide for himself. We venture to say that even among matter-of-fact, hard-headed physicians, there are many who share Dr. Bryce's convictions.—Ed.]

THEORY VS. PRACTICE

The theory is, that a U. S. P. galenical, such as fluid-extract of pilocarpus, standardized to a definite amount of pilocarpine, will do a certain work. Laying aside the probability of deterioration by age, due to chemical reaction, we present here three theoretic possibilities which may apply to any plan containing several active principles. Now, pilocarpus has two active principles, pilocarpine and jaborine and they oppose each other in action. Pilocarpine produces diaphoresis while jaborine dries up secretions like atropine.

Fluid-Extract Pilocarpus Theoretically

Sample	*I*	*II*	*III*
Standard	U.S.P	U.S.P	U.S.P.
Contents			
Pilocarpine	+	+	+
Jaborine	—	+	++
Action	*Good*	*Inert*	*Contrary*

Here we have three apparently good samples, each of them legally and chemically of standard quality. Sample I has so little jaborine as not to be considered. Sample II, however, with the standard amount of pilocarpine, is absolutely inert or negative, since one alkaloid neutralizes the other.

When we inspect sample II, we find an alarming situation. Were such a sample administered in a case of mastitis or uremia, imagine the result of the atropine-like action from that excess of jaborine. Such a sample would violate the first principle of therapeutics, "do no harm," as the patient would be worse off than before.

But, you say, what protection has the doctor? The example is not theory; as we have known of actual cases occurring. There is, however, one sure safety for the prescriber and that is, the use of the definite pure active principle of pilocarpine. Here, we have a diaphoretic of known chemical formula, good forever and a day, quick in action, certain in effect, always and only active for one purpose; therefore, the diaphoretic of choice as against any best-made U. S. P. fluid-extract of pilocarpus.

For your own protection apply a similar study to other galenicals such as you may have been using. The study may answer our many questions as to the why of drug uncertainty and point the way to that happy confidence that will make your practice conducive to increasing pleasure and profit.

Frank B. Kirby.

Chicago, Ill.

What Others are Doing

HYPOTHYROIDISM

The thyroid gland, which was the first of the endocrine glands to be studied intensively, continues to occupy an important place in the investigation of the subject at large, and no less because of its various localized affections that may present very distressing and serious symptoms.

In the *Illinois Medical Journal* for January last, Dr. William Seaman Bainbridge presents an unusually interesting communication on the thyroid gland and the toxemias—with special relation to intestinal stasis. In this article, Doctor Bainbridge expresses the opinion that the thyroid gland is in a large measure the monitor, or regulator, of the entire internal secretory system.

Various affections of the thyroid gland may be produced by an *under-* (hypo) or an *over-* (hyper) activity of the organ. These irregularities, naturally, are not limited to the gland itself but may give rise to disturbances elsewhere in the body. Reversely, there are very many pathological conditions of the human body that may be traced to insufficient or excessive thyroid activity.

In hypothyroidism, the degree of thyroid inadequacy may range from one extreme to the other—from almost complete idiocy to those types in which but one symptom proves the thyroid insufficiency. In cases where the activity of the gland is not sufficiently impaired to cause advanced myxedema, the symptoms of hypothyroidia most frequently met with are, obesity (with fat pads at various points of the body), loss of hair and teeth, lassitude, stubborn constipation, mental torpor, enlargement of the lymphatic glands and, frequently, enuresis.

In myxedema, which is the maximum expression of hypothyroidism, as it progresses after the body growth has been accomplished, there is infiltration throughout the various tissues of the body. When a cell has done its normal work for some time it degenerates, and the proteid molecule must be taken to pieces. It must be split into minor principles and then eliminated through the various channels—lungs, bowels and especially through the kidneys— in the form of urea. If the thyroid is deficient, these principles are not carried away as rapidly as necessary. They are retained in the body under the form of fat and mucin; they enlarge the body cells and cause an accumulation and edema of a specific kind ("myxedema"). Muscular cells are infiltrated with fat and mucin and contraction of the muscles is slow and may be painful; limbs become stiff and the patient complains of "rheumatism." Glands become infiltrated and the secreting elements are often suppressed. Hepatic and intestinal secretions are greatly diminished. In thyroid deficiency, the skin becomes dry and cold and a good soil for eczema and other skin diseases. The nervous system demonstrates the infiltration by sluggish reflexes, headache, giddiness, loss of memory and, in the advanced stage, attacks of coma which may terminate fatally.

Infantile myxedema, or cretinism, is deficiency of thyroid secretion during the period between birth and puberty. It is characterized by retardation of physical and mental development, the main symptoms of which are: stunted growth, thickened lips and tongue, harsh skin and more or less mental deficiency. While cretinism is the result of hypothyroidism, it should be remembered along this line that the thyroid gland is not necessarily absent in every cretin. In some cases, it is markedly enlarged. It is not the size, but the functional output of the gland that counts.

Severe cases of hypothyroidism, such as cretinism and advanced myxedema, are striking and not easily overlooked, but mild degrees of these conditions are likely to escape any but the most painstaking examiner.

HYPERTHYROIDISM AND INTESTINAL STASIS

In the article by Dr. William Seaman Bainbridge, referred to in the preceding abstract, it is pointed out that the designation exophthalmic goiter for hyperthyroidism is misleading and the author suggests the better name "systemic goiter." This seems to be a more accurate designation of a condition the symptoms of which are due to the introduction of

thyreotoxin into the system, resulting in hyperthyroidism, or dysfunction,—increased or perverted thyroid secretion. With systemic goiter, there usually are present increased frequency of action and palpitation of the heart; protrusion of the eyeballs, tremor, and various mental and nutritional disturbances.

While hyperthyroidism is frequently claimed to be a purely surgical disease, the practitioner should not lose sight of the fact that there is one period in its development in which systemic goiter is decidedly amenable to internal treatment. Even in a fairly advanced stage of the malady, the internist may be able to materially improve conditions and occasionally even to bring about a clinical cure.

The thyroid gland, Bainbridge points out, is especially susceptible to many kinds of infection—from gums, tonsils, teeth, sinuses and blood; but particularly from the toxic conditions of the intestines.

In chronic intestinal stasis (a persistent retention or retardation of the contents in some part of the intestinal canal), there is frequently a condition of intestinal putrefaction and autointoxication which causes an instability of the thyroid gland.

It occurs to us that the trend of affairs may be reversed and that intestinal stasis may be brought about by an insufficient function (hypothyroidism) of the thyroid gland. This is proved by frequent clinical experiences in which manifestations of intestinal stasis were lessened and the clinical condition improved by promoting the activity of the thyroid gland.

The connection between goiter and intestinal stasis was recognized by Lane who says that: "In uncomplicated cases of stasis, the thyroid sometimes wastes until it may be imperceptible to the finger. It gradually but surely increases in size after colectomy. The wasting of the thyroid plays an important part in the development of the symptoms which the sufferer from chronic intestinal stasis exhibits. The thyroid is liable to various infections which cause the several forms of the disease of that organ, such as exophthalmic goiter, general hypertrophy, the development of adenomatous tumors, of cysts and finally of cancer.

With respect to chronic intestinal stasis, Bainbridge insists that this is not constipation. Some persons who are markedly static suffer from persistent diarrhea. Bainbridge has elsewhere spoken of the time when there was difficulty in understanding what residual urine really meant. As we know, frequent micturition may be merely the overflow from the bladder, so in chronic intestinal stasis one may have constipation with diarrhea—an overflow of fecal matter with large amounts of poison retained and absorbed by the system.

It is self-evident that, in all these cases, the chronic intestinal stasis of interrelation between the intestinal and the thyroid functions should receive close attention, while all possible measures should be taken to clean out the accumulations of the intestine and to promote a satisfactory state of affairs in the digestive tract; in other words, to "clean up, clean out and keep clean." Attention must be paid, at the same time, to the condition of the thyroid; and its faulty function, whether insufficient or excessive should be corrected.

CLASSIFICATION OF THYROIDISM

Dr. William Seaman Bainbridge (*Ill. Med. Jour.*, Jan.) divides cases of thyroidism into seven classes:

Class 1. Mild types of thyroidism which clear up when the toxic elements of the system are removed, as:

(a) The atrophic gland, with small isthmus, which may increase in size and function when the toxemia is relieved.

(b) The hypertrophic gland which may function normally when the intestinal stasis or other toxic conditions are removed.

Class 2. In this class, hyperthyroid conditions may be present for a long time, until a sudden nerve strain, a fright, or an aggravation of the toxic elements may cause acute and pronounced symptoms, often with obvious goiter.

Class 3. This class includes the cases in which the thyroid is so atrophic that treatment for toxic conditions alone will not relieve the patient and thyroid treatment must be instituted and sometimes continued indefinitely.

Class 4. These patients have not only a chronic hyperthyroidism, but a marked increase of thyroid activity, because of an acute, or a subacute, abdominal condition. They may be cured by operation upon the alimentary tract.

Class 5. In this class are placed the cases in which degeneration of part of the gland has occurred and irritates the remainder, causing hypersecretion. Operation on the goiter is necessary to lessen the abnormal stimulation of the gland.

Class 6. In this group we have pronounced systemic goiter where operation is indicated and where abdominal conditions also require surgical interference to effect a cure.

Class 7. These are cases with marked thyroidism—large or small gland—but demanding

operation. The system is so thoroughly poisoned with thyroid toxins that the necessity of ligation, or some other form of thyroidectomy, is absolutely indicated. Often the patient is so toxic that a period of preparation for operation is required. Here a careful realization of the complexity of the toxic state may be of aid. Lessening of the hyperthyroidism, by topical applications of ice to the neck, physical and nerve rest, eliminating possible acidosis by alkalies and free catharsis, is often of advantage. In addition, the use of alkaline colonic irrigations, and attention to any focal infection may prove of distinct value. This class needs no examples. It is mentioned because a realization of the handicap from focal and especially intestinal toxemias in pronounced systemic goiter may aid materially in reducing mortality.

CHRONIC INTESTINAL STASIS

In an article appearing in the *Illinois Medical Journal,* for January, Dr. William Seaman Bainbridge discusses the relation between chronic intestinal stasis and hyperthyroidism. He quotes Leonard Williams who writes regarding "thyroiditis": "Of all things in medicine chronic constipation ought to be the easiest of diagnosis. But it is not. There are hundreds of people who have a daily evacuation who are nevertheless walking septic tanks. These tanks are terrible depressors of the thyroid and unless you empty and disinfect them, your correct diagnosis of thyroid inadequacy and its logical thyroid therapy, will avail you nothing."

These remarks of Williams remind us of a persistent assertion made in his contribution to CLINICAL MEDICINE and to other journals by Dr. Alcinous B. Jamison, of New York, and who traces a great number of human ailments to the fact that so many people are "walking septic tanks."

The relation between goiter and the static condition of the intestines was recognized, at least vaguely, as early as 1797, by a British surgeon, Wilmer, who published a volume entitled "Cases and Remarks in Surgery to which is Subjoined an Appendix Containing the Method of Curing Bronchocele in Coventry." The author cites two cases cured by medical measures—the first by a prescription of roots of madder, to be followed by a purge after which two drams of alkaline powder, mixed with three large spoonfuls of old red port-wine were to be given each night and morning. The second prescription called for "A medicine composed of millepides, burnt spunge and cinnabar of antimony, the patient to be purged at intervals with mercurial cathartic pills!" Probably the purging at intervals had a more vital bearing on the cure of the bronchocele "in forty days" than was evident to the foresighted author of the old and illuminating volume.

Bainbridge also cites Rowell and Chapple whose evidence, among others, tends to prove that alimentary toxemia is the basic cause of many goiters. These authors describe instances of goiter which have diminshed in size or disappeared as a result of medical or surgical measures which had the effect of draining the intestines. McCarrison reports cases of goiter successfully treated by means of vaccines prepared from organisms known to inhabit the intestines.

All these facts tend to emphasize the importance of attention being paid to intestinal cleanliness, in all conditions of ill-health. Whenever there is a suspicion of imperfect functioning of the thyroid gland, whether this be deficient or excessive, the rule of "Clean-up, clean-out and keep clean" should be invoked. In some instances attention to it may constitute direct etiological treatment; in others, it is symptomatic, but, none the less necessary and useful.

SOME INTERESTING INFORMATION ON SHOCK

Arnold Rice Rich (*Bull. Johns Hopkins Hospital,* Mar., '22), from the Department of Pathology of the Johns Hopkins Medical School, gives an interesting account of a study of the relation of the adrenal glands to experimentally produced hypotension (shock); with a note on the protective effect of preliminary anesthesia.

Contrary to the opinion sometimes expressed, the author concludes from his observations that disordered adrenal function is not a factor in the production of shock. However, if the adrenal glands are removed, hypotension leading to shock is an invariable result. The fall in blood pressure is shown to be independent of the operative trauma, which fact supports the idea that the adrenals are actually concerned in the maintenance of the blood pressure at the normal level.

A very interesting point brought out by the author is that animals that are kept lightly anesthetized wih ether, for an hour immediately before the abdomen is opened, become very resistant to the shock-producing effect of

intestinal manipulation. Even when subjected to severe peritoneal trauma for a period of three hours, the blood pressure shows practically no tendency to fall and sensibility is retained. In contrast, if identical intestinal manipulation is begun more promptly after anesthetization, the blood pressure invariably begins to decline progressively within an hour, has fallen to 60 mm. or below, an hour and a half to two hours after opening the abdomen, and the animal is in complete shock.

An hour's ether anesthesia preliminary to opening the abdomen has proved to be a striking protective against shock, under the conditions of these experiments. If an animal is kept anesthetized for an hour, permitted to recover from the anesthetic, and at once reanesthetized and intestinal manipulation begun, the protective effect of the hour's anesthesia will have disappeared.

This observation, it seems to us, would argue in favor of slow induction of ether anesthesia, at least in cases of laparotomy where the intestines must be manipulated. However, it is to be noted that, once the blood pressure has begun to decline, after the abdomen is opened, ether has a distinct tendency to hasten the onset of the shock.

LABORATORY WORKERS CONTRACT TULAREMIA

It is reported in *Health News*, a publication of the United States Public Health Service, that all six of the laboratory workers of the U. S. Public Health Service who have been studying tularemia, a disabling sickness of man which has been known, particularly in Utah, for the last five years, have contracted the disease, two of them being infected in the laboratory in Utah and the other four in the Hygienic Laboratory in Washington. Such a record of morbidity among investigators of a disease is probably unique in the history of experimental medicine.

Two of these workers are physicians; one is a highly trained scientist; and the others are experienced laboratory assistants. One of them contracted the disease twice, once in the laboratory in Utah and again, two years and five months later, in the laboratory in Washington.

In these workers, the disease began with a high fever, lasting about three weeks and followed by two months of convalescence. The disease has few fatalities, its chief interest arising from the long period of illness which it causes in mid-summer, when the farmers of Utah are busily engaged in cutting alfalfa and planting sugar beets.

The studies into the cause and transmission of the disease show it to be due to a germ, *Bacterium tularense*, which is conveyed by six different insects; the blood-sucking fly, *Chrysons dilistalis;* the stable fly, *Stomyox calcitrans;* the bedbug, *Cimex lectularius;* the squirrel flea, *Ceratophyllus acutus;* the rabbit louse, *Haemódipsus ventricosus;* and the mouse louse, *Polyplax serratus.* Only the first four of these are known to bite man. It appears possible that the germ may also enter through unbroken skin; for instance, that of the hands.

DON'T INFECT MOSQUITOES

Commenting on printed reports on mosquito control in such diverse countries as Spain and the Dutch East Indies, the U. S. Public Health Service calls attention to the fact that the government authorities who are trying to free a certain region in Spain of malaria refuse to allow sufferers from that disease to remain in the region over night lest they infect the malaria-bearing mosquitoes, which feed only at night. Few white people live in the region; and most of the sufferers come from considerable distances and seem to have contracted malaria while working there in previous years. Their blood is examined and they are provided with sufficient quinine to last them for two weeks and are told to go home at once and to report back at the end of that period for another two weeks' supply.

The theory is, of course, that if mosquitoes cannot find a malaria patient to bite they cannot acquire malaria germs and therefore cannot pass them on to well persons. In other words, if men do not infect mosquitoes, mosquitoes will not infect men.

Incidentally, the Service notes that the the American minnows, Gambusia affinis, are being imported into Spain and Italy to help in mosquito eradication.

Among the Books

KING: "STUDIES IN INFLUENZA"

Studies in Influenza and Its Pulmonary Complications. By Barty King. Illustrated. New York: Paul B. Hoeber. 1922.

Doctor King expresses the hope that, in the future, more attention may be paid to cases of acute pneumonia during their convalescence, by way of examinations, clinical and radioscopic, whereby their post-pneumonic effects may be elicited and treated by appropriate respiratory exercise in their earliest stages when they can be most easily dispersed. The neglect of such examination and treatment, more especially in connection with the acute pneumonias of children, undoubtedly accounts for the majority of those cases of chronic pulmonary diseases, such as chronic pneumonia and bronchiectasis.

In accordance with this view, the author presents a detailed study of an outbreak of influenza amongst one hundred and fifty cases of malaria; an investigation of the after-effects of the acute pulmonary complications of influenza as revealed by clinical radioscopic and postmortem examinations, and a study of the influenza epidemic 1918-1919 as it affected the nursing staff of the County of London (Horton) War Hospital. To the student, this book offers much that is of great interest and value.

SCHAMBERG: "DISEASES OF THE SKIN"

Diseases of the Skin and the Eruptive Fevers. By Frank Schamberg, A.B., M.D. Fourth Edition, Thoroughly Revised. Philadelphia: W. B. Saunders Company. 1921.

Schamberg's textbook on diseases of the skin is an old friend. Although this is only the fourth edition, we find that, since the copyright of the first edition, in 1908, there were issued nine reprints or revised editions between 1909 and 1921—a sure proof that this book is in high favor with medical men.

It goes without saying that the theoretical discussions of the various physicians, such as etiology, pathology, and so forth, are authoritative. As to the treatment, the author does not fall into the error of many dermatologists who seem to have the idea that skin diseases are limited to the skin. Taking for instance, the treatment of eczema, the author says that many eczemas are purely of local origin and require merely topical treatment to effect a cure. However, in those cases in which the eruption is the cutaneous expression of some underlying disease, as for instance diabetes or gout, the treatment must obviously be directed to the *origo mali*. In many cases, both local and general measures are necessary, including attention to the important matters of diet, exercise, sleep and habits of living. He goes on to say that the first therapeutic effort should be directed toward the discovery and removal of the cause which, though, is often difficult to ascertain.

Doctor Schamberg presents numerous prescriptions both for local and for systemic effect which are very excellent. Altogether, the book is splendid and a worth-while guide for the general practitioner.

TURNER: "RINGWORM"

Ringworm and Its Successful Treatment. By John P. Turner, M. D. Philadelphia: F. A. Davis Company. 1921.

In this little volume, Doctor Turner presents a treatment for ringworm of the scalp which Doctor Cornell, Director Medical Inspection of Public Schools of Philadelphia, declares, in the introduction, to have proven remarkably efficacious in his hands. Ringworm is such an obstinate and annoying affection that any mode of treatment offering good chances for success must be highly acceptable. The technic outlined by Doctor Turner appeals to us as excellent. His various precautions and, in fact, the entire discussion should be taken to heart.

MURRELL: "POISONING"

What to Do in Cases of Poisoning. By William Murrell, M.D., F.R.C.P. Twelfth Edition Revised by P. Hamill, M.D., D.Sc., F.R.C.P. New York: Paul B. Hoeber. 1921.

A handy and remarkably useful little book that easily can be slipped into the pocket on being called to attend a case of poisoning. The introductory remarks themselves are sufficiently

helpful to repay the purchase of the little volume.

Poisoning, of course, always is a matter of emergency. Every physician should have handy, and always fully supplied, an emergency bag containing antidotes, stomach tube, hypodermic syringe with suitable hypodermic tablets, and so forth. He also should have firmly fixed in his mind all the first-aid measures tending to combat collapse, mechanical or nervous injury, and so forth. Doctor Murrell's little book supplies ample information and help. It can be studied at all times and also in a given case.

MACKENZIE: "HEART DISEASE AND PREGNANCY"

Heart Diseases and Pregnancy. By Sir James MacKenzie. London: Oxford Medical Press. 1921.

The first duty of the physician, Doctor MacKenzie says, is to decide whether or not there is any reason to expect heart failure if pregnancy occurs. The presence of abnormal signs gives no indication of the functional efficiency of the heart. That must always be estimated on the lines laid down in his book. If the functional efficiency is not impaired to an extent greater than that occurring in a normal pregnancy, no steps need be taken and no anxiety felt.

When, however, a woman with undoubted heart disease, such as mitral stenosis, does become pregnant, the pregnancy should be allowed to continue only so long as no marked signs of heart failure are present. Such exercise as can be undertaken in perfect comfort may be permitted. But any distress, particularly breathlessness, is an indication that effort must cease.

As for medicinal treatment, by drugs of the digitalis group, MacKenzie does not consider it satisfactory unless auricular fibrillation is present. However, if the rate of the heart is much increased, digitalis may be given a trial, although it is in auricular fibrillation that the good effects of drugs are obtained.

The present little volume owes its existence to the fact that obstetricians in general, the author says, seem to have taken no or little cognizance of the great advances that have been made in cardiology in recent years. Speaking of a paper on "Pregnancy Complicated by Heart Diseases," read recently by an obstetric physician before a medical society, MacKenzie found his attitude toward the subject to be that of fifty years ago. The book aims to correct this state of affairs and to impress upon physicians, who have charge of pregnant and parturient women, the importance of a true understanding of heart irregularities and diseases.

ORMSBY: "DISEASES OF THE SKIN"

A Practical Treatise on Diseases of the Skin for the Use or Students and Practitioners. By Oliver S. Ormsby, M.D. Second Edition, Thoroughly Revised. Illustrated. Philadelphia and New York: Lea and Febiger. 1921.

This is a very complete treatise of skin diseases, containing 1129 pages of text which, in the nature of things, is of greater interest to dermatologists and physicians with a leaning to dermatology than to general practitioners. However, general practitioners also should devote much study to the problem of skin diseases, for the simple reason that skin blemishes are so annoying to the victims that successful treatment may be said to be a reputation builder second to none.

The Reviewer is not sufficiently "up on" skin diseases to discuss Doctor Ormsby's book critically. He is impressed, though, with the great erudition displayed in its various discussions.

SUTTON: "DISEASES OF THE SKIN"

Diseases of the Skin. By Richard L. Sutton, M.D. Illustrated. Fourth Edition, Revised and Enlarged. St. Louis: C. V. Mosby Company. 1921.

Doctor Sutton's book on diseases of the skin is another one of the standard works on this particular subject. The first edition appeared in 1916. To have a fourth edition called for only five years after the first, surely is a sign of the appreciative reception that was accorded to this useful book. In this, as well as in other books on diseases of the skin, the Reviewer notes with satisfaction the dermatologists are realizing more than formerly the systemic importance of cutaneous affections and that they insist upon the necessity of putting the entire house in order, as it were, for the purpose of correcting localized affections.

EMERSON: "NUTRITION IN CHILDREN"

Nutrition and Growth in Children. By William R. P. Emerson, A. B., M. D. Illustrated. New York: D. Appleton and Company. 1922.

This book is the result of almost fifteen years of original study on the part of the author, whose experience leads him to assert

that malnutrition is a clinical entity with characteristic history, definite symptoms and pathological physical signs. The malnourished child, Doctor Emerson declares, is a sick child and should be so considered.

His investigations have shown that the old-accepted views, according to which malnutrition is due mainly to poverty and improper food and then to bad air, heredity, syphilis, tuberculosis and other causes, are not in keeping with facts. Malnutrition is observed in children who were born with a golden spoon in their mouths as much as in the offspring of tenement inhabitants.

Five chief causes of malnutrition are determined by Doctor Emerson, which are, in the order of their importance, physical defects (especially nasopharyngeal obstruction) lack of home control, overfatigue, improper diet and faulty food habits, faulty health habits.

The subject of insufficient nutrition is one among several to which the results of the selective-service draft, a few years ago, has called our somewhat startled attention. The fact that barely fifty percent of our young men were physically fit for service in the first line was a shock to medical men, economists, educators and the general public alike. It naturally served to crystallize the constructive views that the author had developed already then through his investigations which commenced in 1908.

The book before us is one that physicians, educators, parents, in short, everybody should study closely. It is of paramount importance for the welfare of our nation. The Reviewer ventures to say that no one who reads the preface attentively will be willing to forego studying the book itself in detail. It is one of the most important publications that have come to our attention for long.

ALVAREZ: "MECHANICS OF THE DIGESTIVE TRACT"

The Mechanics of the Digestive Tract. By Walter C. Alvarez, M. D. Illustrated. New York: Paul B. Hoeber. 1922.

The author of this book is well known to research workers as an indefatigable investigator of the subject to which the book is devoted. While the volume is of greater interest to physicians who limit their practice to, or at least are particularly interested in, diseases of the digestive organs, the student and the general practitioner will find quite enough of value to repay a careful study of the book.

The author admits that much of what he has written, at least in some of his chapters, is purely suggestive or, in other words, theory. That, though, does not detract from its value. Indeed, he points quite correctly to the necessity of theory and speculation. The danger does not lie in the utilization of theories but in viewing them as alleged facts.

The Reviewer believes that we owe much to Doctor Alvarez for our better understanding of the mechanics of the digestive tract, and he is confident that this debt will become still greater as time goes on.

CATHELL: "THE PHYSICIAN HIMSELF"

Book on The Physician Himself from Graduation to Old Age. By D. W. Cathell, M. D. Crowning Edition. Published by the author. Emerson Hotel, Baltimore, Maryland. 1922.

A new edition of this splendid book must be greeted with profound satisfaction, because it is one of those volumes that every physician should read and reread frequently. After the first careful and deliberate reading, one may dip here and there, browsing through the pages as opportunity serves or as one may stand in need of encouragement, advice or counsel in any particular contingency.

Twenty years ago, the Reviewer read the "Twentieth Century" (1902) edition of this book with much pleasure and no less benefit. The present "Crowning Edition" has afforded him equally as much pleasure and also proved of advantage. In view of the fact that, in the meanwhile, the Reviewer's viewpoint had been greatly widened and changed from general practice into special practice, and to the editor's desk, he can bear witness to the wide scope of subjects dealt with by Doctor Cathell.

While giving praise unstintedly and expressing his cordial approval, the Reviewer, nevertheless, ventures one criticism that has occurred to him. It is this: The individual chapters are rather long and follow, paragraph after paragraph, without subdivision, although the individual paragraphs deal with entirely different and often unrelated matters. Would it not be well, in a later edition, to use subheads, possibly on the margins of the pages? In this way, we feel sure, the usefulness of the book would be much increased.

On page 135 of this edition, the author says that "gonorrheal and syphilitic cases are not very desirable on any account, except for the fees they bring; they are dirty, ignoble disease, and rather repel than attract their victims and their friends from the physician who attends them when they require one for other diseases. Accepting them will, however, sometimes enable you to pick up good, round fees."

This paragraph, evidently, was written many years ago for one of the very first editions. Things have changed since then and attention to venereal diseases has become a dignified specialty no matter how "ignoble" the circumstances may be under which they are acquired. True, the author does refer to this change of opinion by saying, "Thank God, genitourinary diseases which, a few years ago, were chiefly in the hands of quacks and ignorant imposters, have recently been lifted from this abasement, by our skilful and honorable specialists, into one of the highest and most useful of all our special branches."

Nevertheless, we suggest that the earlier paragraph be omitted altogether in another printing.

Beyond this point, we have nothing to criticize but much to praise; even though we do not agree with the author in everything he says. We recommend this book urgently to all physicians, especially to those just entering upon their life's work. It is not only of service but it is a guide and mentor that can be depended upon and followed safely.

GRULEE: "INFANT FEEDING"

Infant Feeding. By Clifford G. Grulee, A. M., M. D., LL. D. Fourth Edition, Thoroughly Revised. Philadelphia: W. B. Saunders Company. 1922.

The success with which Doctor Grulee's book on infant feeding has experienced is well shown by the frequent reprintings and rewritings to which it has been subjected. Since 1917, when the third entire revision of the book was published, a great many publications dealing with the subject covered in this book have appeared, and the author declares that it has been impossible to do more than record many of the results of newer researches but without commenting upon them. The last five years have shown a definite advance in American pediatrics and of this the author has taken note.

We have reviewed this book before and can only confirm the favorable opinions expressed on these occasions. As to the importance of the subject, we need only remember, with the author, that approximately one-fourth of all deaths occur in the first year of life and that about sixty percent are due to gastrointestinal disturbances. Moreover, there is but little question that of the other forty percent of these young infants who die from other causes, many could be saved if gastrointestinal complications could be avoided.

The text is divided into five parts of unequal length, namely, fundamental principles of infants nutrition; nourishment of the infant on the breast; artificial feeding; nutrition in other conditions; and psychology of infant feeding. To the latter, especially, the Reviewer desires to call the attention of his readers.

LANE-CLAYPON: "HYGIENE"

Hygiene of Women and Children. By Janet E. Lane-Claypon, M. D., D. Sc. London: Oxford University Press. 1921.

This is a very complete and well arranged book of reference, not only for doctors and nurses but for home builders and home owners. It deals with the home and its surroundings (including a garden), with food, water, clothing, ventilation, hygiene of the person, and so forth. It is one of the well known Oxford University Press publications, which are standards in their sound and thorough elucidation of the various subjects dealt with.

SOCIAL-WORK CONFERENCE

Proceedings of the National Conference of Social Work, held in Milwaukee, June, 1921. Chicago: The University of Chicago Press. 1921.

A good many people have a more or less undefined impression that the group known as Social Workers are a good deal of a nuisance; perhaps doing as much harm as good by unsettling the minds of the poor, by putting into their heads ideas which they can but dimly grasp, and making them troublesome to deal with. It is probably true that the efforts of social workers have caused the poor to assert themselves, and not always wisely. In their resolve to get more of the good things of life, they are inclined to demand very big pay for very poor service. It is also true that there are among social workers some who are very decidedly lacking in good judgment—the more zeal, the less commonsense. They are the "lunatic fringe" of Roosevelt which is bound to attach itself to every reform movement.

Any fair-minded person who will glean through this bulky report (to read all of its 526 closely printed pages would be too much to be expected in this busy age) will be compelled to realize that, in spite of the drawbacks mentioned above, there is a great work to be done, and that it is being done as well as could be reasonably expected considering that it must be done by fallible human beings.